



[SEPT. 3, 1864]

## Original Correspondence.

## COAL-CUTTING MACHINES.

SIR.—The letter from us, which you were good enough to insert in last week's Journal, furnished a simple means of comparison between our original invention, and a machine made in imitation of it, designated the "Trunk Coal-Cutter," and we think that we succeeded in demonstrating that there is no foundation for asserting that the latter invention is an improvement upon the former. There is in the same number of the *Mining Journal* a long and singularly unintelligible letter from the discoverer of the Trunk Coal-Cutter, the object of which is to prove—by figures which nobody can understand—that there is great economy in the consumption of air in the use of his article, but which will be difficult to do in the face of the facts to be confronted. Having defended the merits of the old machine, and shown its superiority over its imitation, we now beg to inform those who have followed the correspondence that we have now machines at work, made on the oscillating principle, which are eminently successful; and, for the sake of easy comparison with the other coal-cutting machines, we must beg of you to give us space for this letter in your forthcoming number. We learn from the published particulars that the trunk engine machine has a cylinder of 7-in. diameter, and that it will not work effectively with a less area, owing to a deficiency of power for the return stroke; and, although there are very few seams of coal which need so great a force as a 7-in. cylinder, the form of the "Trunk" renders that excessive size an absolute necessity, and that it is unavailable for all sizes below it. In the "oscillator" there is no such restriction; the cylinders may be 4, 5, 5½, 6, 6½, 7 in., or any size upwards; and the diameter of the piston-rod may be regulated so as to give the exact power for the return stroke; and the following figures will show the relative diameter of cylinder and consumption of air:

|  | Sq. in. |  |
|--|---------|--|
| Oscillator, with 6 in. cylinder—                                   |         |  |
| Out stroke, 6 × 6 = 36; loss per sq. inch, 25 per cent. = 9.....   | 27      |  |
| Back stroke, 6 × 6 = 36; ditto = 9; less piston rod, 6% ..         | 20½     |  |
| Ditto, with 6½ in. cylinder—                                       |         |  |
| Out stroke, 6½ × 6½ = 42½; loss per sq. in., 25 per cent. = 10½ .. | 31½     |  |
| Back stroke, 6½ × 6½ = 42½; ditto = 10½; less piston rod, 9 ..     | 22½     |  |
| Ditto, with 7 in. cylinder—  |         |  |
| Out stroke, 7 × 7 = 49; loss per sq. inch, 25 per cent. = 12½ ..   | 36%     |  |
| Back stroke, 7 × 7 = 49; ditto = 12½; less piston rod, 12½ ..      | 24½     |  |
| Trunk machine, with 7 in. cylinder—                                |         |  |
| Out stroke, 7 × 7 = 49; loss per sq. inch, 25 per cent. = 12½ ..   | 36%     |  |
| Back stroke, 7 × 7 = 49; ditto = 12½; less piston rod, 12½ ..      | 24½     |  |
| Double stroke .....  | 61½     |  |

The "oscillating" machine, with 6 in. cylinder, at 90 strokes, consumes 101,520 cub. inches per minute; 6½ in. ditto, 114,480; 7 in. ditto, 132,300. The trunk machine is incapable of being applied to the 6 or 6½-inch cylinder, but will work with 7 inches, and consume exactly the same quantity of compressed air, working at the same speed, 132,300. The oscillating machine measures in length but 3 feet 1 inch, weighing from 10 to 12 cwt., works with unrivalled steadiness upon the road, easily propelled, and may be set at any angle or gauge.

Aug. 30.

## THE WEST ARDSLEY COMPANY.

## COAL-CUTTING MACHINES.

SIR.—I perceive in going over my letter in last week's Journal that several mistakes occur by the misplacement of the different signs used to denote the value of the figures, and likewise the pointing of the decimals is in some cases omitted altogether, which very much confuse the question. I have carefully revised the whole of this part of my letter, and should be obliged if you would insert the same in your next Journal:

FIRST.—HETTON MACHINE ARRANGEMENT.—Diameter of cylinder, 7 in.; ditto piston rod, 1½ in.: then  $7 \times 7 = 49 \times 7854 = 38484$  area of cylinder at back end; and  $1 \times 1 \times 5 = 2 \times 25 \times 7854 = 1767$  area of piston-rod; this taken from  $38484 - 1767 = 36717$  area of front end of cylinder, and  $38484 + 36717 = 75201 - 2 = 3760$  the true area acted upon by the power. Then  $3760 \times 25 \times \text{pressure} \times 180 \text{ ft. per min.} = 169,200 \div 33,000 = 512$  horse-power.

TRUNK MACHINE ARRANGEMENT.—Diameter of cylinder, 7 in.; ditto trunk, 4½ in.:  $7 \times 7 = 49 \times 7854 = 38484$  the area of back end of cylinder, and  $4 \times 25 \times 25 \times 7854 = 14186$  area of piston-rod; this taken from  $38484 - 14186 = 24298$  area of front end of cylinder. Then  $38484 + 24298 - 62782 - 2 = 31391$  the true area acted upon by the power: hence  $31391 \times 25 \times \text{pressure} \times 180 \text{ ft. per min.} = 141259500 \div 33000 = 428$  horse-power. Now, by the above it is proved that the trunk machine arrangement will do the same amount of work as that of the Hetton machine arrangement, with the saving of nearly 1 horse-power per minute, or '84 horse-power per minute less. We shall now see what amount of power is actually consumed by each arrangement of the machines as above.

HETTON MACHINE.—The capacity of cylinder, after deducting the solidity of the piston-rod, is for each double stroke 902½ cubic inches, and  $902\frac{1}{2} \times 90 = 8121.70$  cubic inches per minute at a pressure of 25 lbs. to the inch, or 1·66 atmospheres, and  $8121.70 \times 1728 = 47$  cubic feet per minute; then  $47 \times 1.66 = 78$  cubic feet consumed per minute at the ordinary pressure of the atmosphere.

TRUNK MACHINE.—The capacity of cylinder, after deducting the solidity of the trunk, is for each double stroke 753·383 cubic inches, and  $753.383 \times 90 = 67804.47$  cubic inches per minute; then  $67804.47 \div 1728 = 39.23$  cubic feet per minute at the pressure of 25 lbs. to the inch, or 1·66 atmospheres, and  $39.23 \times 1.66 = 65.12$  cubic feet per minute consumed at the ordinary pressure of the atmosphere. Now, from the above calculations, it is self-evident the great advantage the trunk machine has over the old arrangement; as it is here shown, beyond all doubt, that the trunk machine is doing the same amount of work as the other machine, with a saving of '84 horse-power per minute, in addition to 13 cubic feet of air per minute, consequently the true saving of power by the trunk machine will stand thus—first, '84 horse-power and 13 cubic feet of air per minute will equal '866 horse-power per minute, as it has been shown that  $65.12 \times 25 \times \text{pressure} = 428$  horse-power per minute, as thus— $65.12 \times 25 \times 1.66 = 1706$  horse-power, the true saving of power by the trunk machine.

I have read with much curiosity the letter of the West Ardsley Company on this subject in the Journal of last week, and beg to remark that the 25 per cent. system will not do for the purpose of finding the true areas of circles, and this has evidently led them into a rather serious error, as I find not one of the areas of the cylinders mentioned is correct, and I have no doubt but the 25 per cent. is the cause of this; and by whatever means they have found the figures they have stated to represent the quantity of compressed air consumed by the three machines named I am at a loss to know, as no rule or method is stated how they are found; but I can prove the figures are not correct to the extent of 156716 cubic inches per minute too much. Of course, the trunk machine has got the worst of it, as usual.

Finsbury, Aug. 30.

ROBT. RIDLEY.

## AMERICAN COAL, TARIFF, AND TAXATION.

SIR.—Having in former letters endeavoured to show that, as regards fuel for the Atlantic free states of America, the anthracite district of Pennsylvania is the only one at all available or within reach, and that, despite all that extravagantly paid state geologists and hundreds of prospecting trials and colliery openings have elicited, the result or present position is that a 2 foot seam worked in Great Britain, inclining gently to unknown depths and breadths, gives more tons of coal, workable at depths which have been in many places won, than all the seams of the free states put together, including the 30-ft. seam of the nearly exhausted Beaver Meadow basin, the 25-ft. seam of Wilkesbarre, the lone 7-ft. seam (exhausted for miles from Carbondale) at one end of the field, to and round Pottsville's vertical seams at the other end.

Cotton was supposed to be King when this disgraceful war began, but Coal will be so as regards the essentials for Peace or War. In other words, in those states depending so much on manufacturing and carrying by steamers for themselves, the slave states, and the world, COAL IS POWER. That it has been for the past twenty years put into New York and Philadelphia at about \$8, or 14s. per ton, and is now \$10 (2d.); and in that country of millions of acres of timber of no value but as fuel, that English Cannel Coal should lately have sold in Boston at \$5 per ton may surely be taken as proof of what I have said, that their Coal deposits are as far inferior to those of Britain as Sir William Armstrong and others, misled by the bombast of Americans, have stated them to be superior. And this price for a ton of coal (double the price of 1 ton of pig-iron here) is not confined to Cannel Coal, or this period of the war, for the standard price of English bituminous (smith's) Coal in Boston has been \$12, exchange at

275, near \$35, or 7l. per ton. Were the coal deposits and conveyance at all what they are represented, they would, of course, only need to be opened to bring down the price in the cities, and to make coalmasters wealthy; but we see the price nearly stationary for near 20 years, and of hundreds of coal-masters the successful may be counted on the fingers of one of them. That bituminous, or smith's coal from England, has for years previous to the war been more than double the price of the anthracite in the Atlantic cities, is proof that the bituminous of Maryland is out of distance, inferior, &c.

Then, as to the power of the free states, by virtue or value for their LAND.

There might be wit, but it was in error that a leading journal quoted the exclamation of Blucher when viewing the shop windows of London, "Mein Gott! what a city to sack;" and added, as to America, "What a country to mortgage." The speeches of Mr. Morrill, of tariff note, in Congress, show it as the poorest of civilised nations, through exhaustion of the soil. While a moderate looking crop of wheat in most English counties yields 30 bushels per acre, and double that is sometimes reached—the average of an average county, Derbyshire, 25 bushels—Mr. Morrill states as proof of the necessity of the tariff that the average of wheat in the original free states, which have not abandoned its culture entirely, is only six bushels per acre, being but thrice the quantity sown. That with double the number of acres under cultivation, or cleared of timber, in the State of New York, as large as England, and best adapted in soil, climate, and markets for sheep of all the States, and the tariff on wool, the number of sheep kept is less by 300,000 than 20 years ago; with numberless facts of the sort. The practical cause of this cannot fail to be clear to any farmer. The commencement of clearing for a farm in 99 cases out of a 100 was by men being obliged to work part of their time for others for several years, and the average rate of clearing may be under seven acres yearly. To clear and cultivate 50 acres during a life is called good work for a man. His cows summered in the woodland are for some years his best means of living, and hay for their wintering and for bread. Horses, hogs, &c., will require continual cropping of land, almost entirely poor and sandy, and the river or brook flats the worse so. All you meet in New York or Pennsylvania are desirous to sell their farms, for they are almost uniformly exhausted as fast as cleared, quality of soil and low price of produce precluding fair farming. The soil and land, under their sun, will not recruit by rest. Dr. Franklin told the British Government they had no idea of the poverty of America. That one year of the proposed taxes would sweep away all the coin in the country. At that time the dress of the farmers was homespun, and wild deer gave meat in any new settlement, and whiskey made on most of the larger farms sold to the workers in every trade. All this is over. Liquors only pay in the rich West, and wheat is brought from thence, as to England from Chicago, at 6d. per bushel, so that the land of the central and northern free states is all but worthless.

Oscillator, with 6 in. cylinder—

Out stroke, 6 × 6 = 36; loss per sq. inch, 25 per cent. = 9.....

Back stroke, 6 × 6 = 36; ditto = 9; less piston rod, 6% ..

Ditto, with 6½ in. cylinder—

Out stroke, 6½ × 6½ = 42½; loss per sq. in., 25 per cent. = 10½ ..

Back stroke, 6½ × 6½ = 42½; ditto = 10½; less piston rod, 9 ..

Ditto, with 7 in. cylinder—

Out stroke, 7 × 7 = 49; loss per sq. inch, 25 per cent. = 12½ ..

Back stroke, 7 × 7 = 49; ditto = 12½; less piston rod, 12½ ..

Double stroke .....

it does not break like the spall from a flint. If these are good, give a favourable report. I wish every quarry success, and shall be happy to offer my congratulations at your first dividend meeting: permit me also to reserve my condolence, lest unhappily you meet with a reverse. And now let me bear testimony to the uniform courtesy exhibited from every agent in the Festiniog district. I have received every attention, information, and insight into the working of their quarries, the cost and powers of production of the machinery, with the makers' names, and for these many attentions and much useful information I beg to tender my warmest and best thanks.

AN ENGLISHMAN.

### THE SLATE MOUNTAIN COMPANY.

To THE SHAREHOLDERS.—As you have, no doubt, received the circular issued by the directors on the 23d inst., stating the progress and present operations in the different levels at the quarry, as given by our engineer, I think you will agree with me in considering that, though the progress is slow, it is sure, and, so far as operations have gone, the quarry seems opening up well, notwithstanding some drawbacks. But what I wish to suggest is this, that as we may in a month or so expect our next annual meeting, would it not be advisable before that time to have the quarry inspected by a competent person, on behalf of the shareholders, so as to have an independent report for our guidance at the next annual meeting? The expense of such report would be but little, easily borne by the subscribers, and would be, I am certain, money well spent. I do not make this suggestion because I have not confidence in our engineer, but simply to have an independent opinion of the progress and future prospects of the quarry.

H. HASTINGS, M.D.

### EAST WHEAL GRENVILLE.

Sir,—On two former occasions I have written to you predicting a favourable future for this mine, and I am proud to think that results have thus far borne out the correctness of my judgment; and though I may be doing so accused of being of too sanguine a temperament, increased by the present verification of my predictions, I have no hesitation in saying that in a very short time—probably ere this has been many days in print—such a discovery will be made in the mine as has not taken place in this district since West Bassett cut rich a few years since, and shares rose to 40/- each. I need not tell you that the East Grenville lode is a continuation of the celebrated lode so long in dispute between South Frances and West Bassett Mine. In East Grenville, in the 65 fm. level, 7 fm. of ground have been driven through, yielding upwards of 100 tons of good ore. In the present end the lode has what the miners call "taken horse," or divided into two branches, with a patch of granite between them. This is incident to all lodes, and is a favourable feature, and I think that when clear of the horse the lode will be found as productive as ever. This level (the 65) is generally considered to be the top of the ore, but I do not think so; my views are that the ore dipping east or towards the shaft will be found in the shallower levels, and as there are two stopes in the back of the 65, each work 7 tons of ore per fathom (stopping at 2/- per fathom), and as the 55 is already beginning to be of value, my opinion seems to be so far partly confirmed. The most important feature in the mine, however, is the 75 fm. level; this has been driven on a lode which, though not at present to value, will, I believe, in a short time lead to such a deposit of mineral as must cause the adventurers to be well pleased with the prospects before them. In the 65 they drove about 16 fms. before the ore was met with, and in the bottom of that level there is a lode that in places would yield more than 10 tons of ore per fathom. In the 75, though the end is still 7 fms. behind the point at which the ore comes in the 65, the lode is nearly 3 ft. wide, in easy ground (driving at 4/- 10/- per fathom), and presenting such indications as to make me feel very confident that a sufficient course of ore is not far distant. If such should be the case, if the ore should come in earlier here than it did in the 65, it will strengthen my views that the 65 is near the top of the bunch, and in this case the ore will in all probability be found in the shaft before the next level (the 55) will be reached, and which they are sinking for with all possible dispatch. Nor is the western ground the only point to which I direct my attention. In my former letters I alluded to the fine indications in the eastern shallow levels, and still maintain that they are pretty certain, ultimately, to lead to great discoveries, for finer indications of contiguous courses of ore I never saw. On a general view of the mine, I feel more confident than when I last wrote to you that it will become a valuable property, and that important discoveries are on the eve of being made. I am perhaps intruding to too great an extent upon your space, but as I have often seen your name open to prognostications which have not been fulfilled, I think in your good nature you will allow me the gratification of calling attention to my past predictions, and to express my very frank convictions as to the future.

AGENTS.

### OLD WHEAL NEPTUNE—WINDING-UP.

Sir.—The reply of "One Interested" to "Common Sense" shows in the most conclusive manner that "One Interested" is bereft of that stirring article. He prates about what he does not understand; if he had the smallest knowledge of Companies' law he would not have put forward such a reply to the sensible letter of "Common Sense." I would simply refer him to the Companies Act, and ask him to point out the clause which would enable a liquidator to carry on the mine or to apply any part of the 1000/- to be borrowed towards such a purpose. I am afraid the liquidator would find himself in the wrong box. The duty of liquidators is to apply the property of the company in satisfaction of the liabilities. Now, the extra 1000/- after the 1000/- was owing to creditors friendly to the company, who had consented to wait until the realisation of the machinery. The liquidators *must* have applied the 1000/- towards satisfying the liabilities, therefore every creditor of the company would have been paid months since, and these vexatious proceedings, which are utterly opposed to the wishes of every shareholder, would have been impossible. It is strange that Cornish merchants should be so blind to their own interests. Even if the liquidators had paid other creditors in preference to them, that payment, by the 16th section, would have been bad and void against them. The Vice-Warden never made any such offer as alleged in the letter of "One Interested." The Cornish creditors can be paid in full any moment they like to let the company wind-up its own affairs.

A HOLDER OF ONE HUNDRED SHARES.

### Meetings of Mining Companies.

#### NORTH GREAT WORK TIN MINING COMPANY.

A general meeting of shareholders was held on Aug. 26, at the offices of the company, Steele-street, Liverpool.

Mr. JOHN LEWIS in the chair.

The accounts for the three months ending June 12, showing a debit balance of 1572. 12s. 9d., were approved and passed.

Capt. Vivian and Pope, agents of the mine, reported as follows:

Since the general meeting of shareholders, in April last, we have driven the deep adit west of Thomas's shaft, on the south lode, 5 fms.; lode at present 8 in. wide, composed chiefly of gossan and good saving work for tin. We have driven the deep adit south of Petherick's shaft, on the counter, 11 fms.; lode at present disturbed by an evan course. We have driven the shallow adit north of Vivian's shaft, on the same lode, about 15½ fms. The lode having divided, we have been driving on the eastern branch, which, however, does not appear to be the main part. We shall now open on the other, or western, branch. We have driven the same level south of Vivian's shaft, on this lode, about 1½ fms., through a large and very kindly lode, generally producing good saving work for tin. We have cut down and secured from surface 12 fms. deep a shaft south of this end, and shall commence sinking forthwith on a ledge 2½ ft. wide, worth about 5½ fms. per fathom. This shaft will come down to ventilate the shallow adit, now rapidly approaching it, and will, at the same time, open up tin ground, which will work at a low tribute. We have driven the shallow adit east of Vivian's shaft, on the north lode, about 12 fms.; lode worth for that distance from 4/- to 10/- per fathom, and improving in depth. We have sunk a shaft, to the east of Vivian's about 30 fms., 11 fm. from surface on a kindly lode, producing altogether good saving work for tin; but have been obliged to suspend the further sinking of the same for the present, owing to the water. We have also sunk a shaft north of Vivian's, on the counter, 12 fms. from surface; lode varying from 1 ft. to 2 ft. wide, tiny. In the above we have sold 2 tons 9 cwt. 3 qrs. 2 lbs. of black tin, realising 1597. 7s. 1d. At the same time, the heaps of tinstaff on the mine have been largely accumulating, this excessively dry summer having almost exhausted our stamping-power.

The minutes of the last extraordinary meeting, held on May 26, having been approved and passed, it was resolved—that the mine be, and is now, placed under the Cost-book System.—A call of 2s. per share was made.—Messrs. J. Lewis, Brett, Blyth, and Hughes were re-elected the committee of management; and the thanks of the meeting were presented to Mr. Lewis for his courteous conduct in the chair.

#### SOUTH LOVELL MINING COMPANY.

The first ordinary general meeting of shareholders was held at the offices of the company, Cophall-buildings, on Monday.

Mr. F. G. LANE was voted to the chair.

Mr. WALTER THOMSON (the secretary) having read the notice convening the meeting.—

The CHAIRMAN said that the object of the present meeting was two-fold—to elect from the body of shareholders a few gentlemen to act as the finance committee, into whose hands would be placed the capital that had been subscribed for working the mine; and, secondly, to approve, or otherwise, of the code of rules and regulations that had been prepared for their future guidance. He had carefully perused those rules, and felt no hesitation in saying that they were, in every respect, just and equitable, and entirely suited to the satisfactory control of any cost-book enterprise. As regards the mine, he could assure the shareholders that, unless he had felt perfectly satisfied that it would upon development prove a remunerative enterprise, he should not have introduced it to his friends and the public; but before he became associated with it he obtained the testimony of several eminent practical authorities as to its prospects of success, all of whom expressed an unequivocal opinion that the property presented all the essential elements of a permanently productive mine. Among others, Capt. Chappell, of Wheal Sithney and Carnmaw United Mines, stated that the sett is bounded on the west and north by New Wheal Lovell and East Wheal Lovell, but that the lodes were a continuation of the Old Trevenen, Trumpet Consols, and Wheal Lovell, which were situated to the west of South Lovell, and had made very large profits, Trevenen paying in one year alone for dues more than 20,000/- The geological position of South Lovell (continued the Chairman) was all that the most sanguine could desire; and as to the general prospects of the sett, the same authority states that operations were continued by the former workers to within 50 fms. of intersecting one of the principal lodes, when, some of the adventurers having got into difficulties in other concerns, the mine was suspended—the 50 fathoms remaining to be driven to cut the lodes, to accomplish which, including all the necessary costs, would not exceed 5000/- It appeared that, from the information which Capt. Chappell had obtained from the most respectable sources, coupled with his own opinion, he felt assured that sufficient tin would be raised to pay the cost of the adit, after the lodes should have been laid open. The agent of Siray Park (Capt. E. Rogers) states that the lodes in the neighbourhood generally made shallow as well as depth, and, therefore, the chances in South Lovell were that sufficient tin might soon be raised, not only to pay for all the erections, but to leave a good profit. The CHAIRMAN could not answer that question.

Mr. Pearson said that Mr. Petherick further stated in his report that "for obvious reasons I am not at present in a position to justify my expressing a decided opinion of the value of the mine as a gold speculation, but without wishing in any way to pre-judge the case, I may state that I have no confidence whatever in the truth of the published statements of the quantities of gold said to be contained in the quartz, and unless

it had been in the hands of the present company practically substantiated the favourable opinions expressed with regard to it. Indeed, from all that he had been able to ascertain upon the subject, it would seem that, like numbers other instances, the first set of workers, after incurring a large outlay in partially opening the mine, had discontinued operations at the very point at which the result of their expenditure was about to be tested; for example, more than 300 fathoms of adit had been driven to accomplish a certain object—the cutting of the main lode; but, when about 50 fms. from the goal, disputes and difficulties arose, and operations were suspended, leaving it to others to cut the lode and test the actual value of the property at a small outlay. But the object of the present company would not be confined to the driving of this adit, as two shafts had been sunk, which were being cleared up, whence other lodes would be cheaply and expeditiously reached. He ought also to mention that South Lovell was between the two important cross-courses of the district—the East Lovell and the Bassett and Grylls—between which all the mines in the district made their ore, and of several lodes which had returned enormous riches. All he, in conclusion, would say was that he confidently believed, with good practical and economical management, South Lovell would soon prove no unimportant addition to the far-famed mines of the Helston district. (Hear.)

Mr. ALLISON enquired if any information had been recently received from the mine?

The CHAIRMAN said that Capt. Chappell, who was present, had, he believed, received a communication from the mine, which he would, no doubt, read.

Capt. CHAPPELL said that the communication referred to stated that good progress was being made in clearing the shaft, and that the men thought they were close to the lode, having found some good stones of tin. From the testimony of a miner who formerly worked there, it would seem that there were now underground rich piles of tin-stuff, for at the former working the adit, from not having been properly secured, ran together, when the water rose, and the company, being poor, had not sufficient means to clear it. This miner further stated that when the water was drained there would be found a rich vein of ground in the bottom of the adit level.

Dr. A. Bridge and Messrs. B. Hollingsworth and H. J. Whaley were appointed the finance committee.

The SECRETARY having read the code of rules and regulations which had been prepared for the future government of the company, upon the proposition of Mr. Hollingsworth, seconded by Mr. ALLISON, it was unanimously resolved that they be the rules of the company, and that they be entered in the cost-book.

The London and County Bank and Messrs. Vivian, Grylls, Kendall, and Co. were appointed the company's bankers. A unanimous vote of thanks having been passed to the Chairman, the proceedings terminated.

### ST. DAVID'S GOLD MINING COMPANY.

The second annual meeting of shareholders was held at the London Tavern, Bishopsgate-street, on Wednesday—

Mr. J. W. CUSACK in the chair.

Mr. W. H. ROBINSON (secretary) read the notice convening the meeting.

The report of the directors stated that, about two months ago, in sinking a shaft to meet the No. 1 level, a rich deposit of copper ore was struck, yielding, by assay of Messrs. Griffith and Barton, 19-32 per cent. of copper. To prove this deposit the men were put to drive on the lode, and continued to do so for month. The state of the air then rendered it necessary to discontinue driving further, and to resume sinking the shaft, from which copper is still being sent up. The No. 1 level, at a depth of 76 ft. below the point where this discovery was made, has now been driven through the Elizabeth lode, which is found to consist of 25 feet of quartz, the inner portion of which contains copper ore of equal richness to that discovered in the shaft. In consequence of this discovery the directors have taken measures for the immediate and vigorous prosecution of the works. One of the body (Mr. Cusack) has undertaken the local management; contracts have been entered into with an experienced person for the erection of buildings and machinery, including a Blake's stone-breaker, powerful crushers, jiggling apparatus, and large water-wheel capable of driving the whole. The directors are still hopeful as to the value of their property as a gold mine—as the property is opened, the gold may at any moment be struck in paying quantities. On the subject of the purchase of the right to work the bed of the River Mawdiddach, the directors have to report that the operations in that part of the property are without satisfactory results, and having had their attention called to certain alleged acts on the part of the vendor, the directors have been advised to resist any further payment on that account, and to take steps for the recovery of former payments. As this matter is *sub judice*, the directors are precluded from making any lengthened or more particular statement respecting it. Mr. John Petherick had been engaged to make a survey of the property, and to estimate its value and prospects.

The report of Mr. G. A. Henty, the superintendent (which appeared in last week's Journal), was taken as read.

The CHAIRMAN said that, while on behalf of the board he moved that the report of the directors should be received and adopted, he wished to state, with reference to the balance-sheet, that it should be merely received and entered on the minutes. As to the item of 550/- for directors' fees, Mr. Cooper, the auditor, would inform them that this amount had not been paid to the directors—it appeared merely as a charge, but of that amount only 150/- had been received.

Mr. COOPER explained that as the directors were entitled to receive 550/-, that amount was placed in the balance-sheet as a charge against the company.—The CHAIRMAN said that the amount was embodied in the item of 774/-, sundry accounts, which appeared on the other side of the balance-sheet.

A SHAREHOLDER did not understand the explanation. Upon the last occasion attention was drawn to the question of the directors' remuneration, when he stated, as he still thought, that it would be a graceful act on the part of the board if they declined to accept fees until some results had been obtained from which the shareholders had benefited. At the last meeting the directors engaged not to accept any more fees than the amount they had then received—500/- except by a vote of a general meeting, and, therefore, he was rather astonished to find that any amount had been received. With respect to the 550/- as a matter of account it was of little consequence how it stood, so long as they had not got the funds to pay it.

Mr. PEARSON, reverting to the question of the directors' remuneration, drew attention to the discussion which took place upon the point at the last general meeting, and quoted from the report which appeared in the *Mining Journal* to the following effect:—"The directors having retired, were unanimously re-elected, and a discussion arose as to the remuneration, when the directors stated that if it were the wish of the shareholders they would not accept any further remuneration until dividends were paid, but it was suggested that the matter should be left in the hands of the directors, or that they should for the present receive half the amount to which they were entitled under the Articles of Association. The latter suggestion seemed to meet with general approval."

The CHAIRMAN said that the directors had not taken half, nor one-third, of the remuneration to which they were entitled under the Articles.—Mr. PEARSON said he should certainly oppose even the reception of the balance-sheet. He could not see what object was gained by entering upon one side an amount which was paid, or liable to be paid, to the sake of writing on the other side the whole amount.

The CHAIRMAN said the board had no power to meddle in any way with the balance-sheet as presented by the auditors, who were officers appointed by the shareholders.

Mr. PEARSON said, according to the Articles, two auditors should be chosen—two shareholders.—The CHAIRMAN said that according to the Articles the shareholders could appoint, and had appointed, whom they pleased.

Mr. HAMILTON wished to know the object of the board in advising that the balance-sheet should only be received and entered on the minutes?—The CHAIRMAN said that the object of the board was merely to show that the balance-sheet had been presented. As far as the directors were concerned, they had not the slightest objection one way or the other, but the directors were bound to receive it.

Mr. F. H. DEANE said that, at the beginning of the company, he was but a small shareholder, but had from time to time increased his interest, being led to do so, as no doubt had many others, by the flattering reports which had been circulated. About six weeks since he called at the office of the company, when he was informed that the prospects of the mine were really about to take altogether a new and more favourable form. He was told that great discoveries of copper had been made, and that there was no doubt dividends would shortly be declared; and that one of the directors either had taken, or was about to take, the 12,500 forfeited shares, and pay the call upon them, such confidence had he in the improved position and prospects of the mine, but these shares had not been taken up.

When he paid subsequent visits to the office, he was told that new blood was required on the board, and it was suggested that he (Mr. Deane) should join the direction, when, a little influenced by the improved prospects of the company, off-hand, and without consideration, he consented. Shortly afterwards he was informed that he had been appointed to a seat at the board; but this unconditional appointment he declined, and took further time to consider, and again declined. It being represented, however, that Mr. Cusack, one of the directors, was superintending the works at the mine, and that, in consequence of there not being sufficient directors, the operations of the company were impeded, he again consented to join the direction. About a month ago he attended the first meeting, when he was sorry to say that he was at issue with his co-directors on one important point in connection with the management of the affairs of the company. Under those circumstances it became a question with him whether he should resign or continue as a director, but, the general meeting being so near at hand, he considered it would be to the interest of the shareholders to continue in the direction. As regards the purchase of the river washings, he had been long of opinion that the directors had no power, and were not justified in effecting that purchase in the name of the company, and he proposed that the question should be laid before counsel.

That opinion had been taken, which was to the effect that there existed no power on the part of the directors to have made this purchase. He felt relieved upon this point being cleared up, and it was upon that ground that he was about to propose an amendment to the adoption of the report. His amendment was to the effect—that the directors, without the sanction of an extraordinary general meeting, had exceeded their powers in making the purchase of the river washings; that the contract was not binding upon the shareholders; and that, generally, due care had not been exercised in the management of the company's affairs, consequently the report of the directors should be rejected.

Mr. E. PEARSON seconded the amendment, and quoted clause 90 of the Articles of Association, showing that no purchase could be made without the sanction of an extraordinary general meeting. He contended, therefore, that although the fact was mentioned in the report of the directors at the last annual general meeting, and which report was received and adopted, that the purchase was invalid, inasmuch as it should have received the sanction of an extraordinary general meeting. As regards Mr. Petherick's report, it had been seen that that report, referring to the copper, stated that there was not sufficient to pay the cost of the extraction, and that, referring to the property generally, Mr. Petherick recommended the company not to be continued. How that could be reconciled with the reports from the mine, which appeared from time to time in the *Mining Journal*, he could not see. Mr. Petherick, specially referring to the gold, states that—"In considerable abundance, in veins and detached masses, exists on this property, but its auriferous character does not appear to have been established on satisfactory grounds as yet. The alleged existence of gold in remunerative quantities, if at all, in the veins of quartz, has not yet been ascertained by actual experiment; and any which the quartz may possibly contain, not being visible to the eye, it is obviously impossible for anyone to form an opinion of its value from inspection. Under such circumstances, the value of the mine as a gold speculation at present must necessarily be very doubtful, and I would strongly recommend that before any further outlay be incurred in the erection of houses, machinery, and other works of a permanent character, the actual quantity of gold, whatever it may be, which the auriferous quartz may contain, shall be accurately ascertained by assay, so that its economic value may be placed beyond doubt in the first instance. For that purpose, I would advise that a series of carefully prepared samples of quartz from the different veins, fairly representing the whole mass to be treated, shall be tested in the usual manner, and the results, together with a notice of the places from where they were taken, be registered in a book to be kept for that purpose by the resident agent, for future reference, should the results such as to justify the further prosecution of the works."

A SHAREHOLDER enquired if Mr. Petherick was acquainted with gold mining?

The CHAIRMAN could not answer that question.

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view. He thought that their shares ought to be issued at a premium, inasmuch as the prospects of the company were such as to justify the expectation of a handsome dividend during the first 12 months' working. At the same time, as it had been agreed to issue 2000 shares at par, it would be so carried out, but beyond such number of shares no further issue would be made on the same terms. It would also be satisfactory to the shareholders to know that the company's slaves were of such a quality that they had already offers for more than they could make for several years to come, at prices considerably above those obtained by Col. Pennant, and, in fact, had already sold a considerable number at 5 per cent. over and above the prices obtained by the best quarries. These 2000 shares were, of course, offered in the first instance to the existing shareholders. In conclusion, he begged to say that the directors had the greatest confidence in the undertaking. There was a large and certain profit upon every ton of slaves they made, and the profits were only limited by the amount of labour and machinery employed, inasmuch as the quarries themselves were inexhaustible. He was also glad to say that there was a fair prospect of the agreement for the tramroad from the Crown Elisa Quarry to the River Conway being completed in the course of this week. He had now only to move the adoption of the report and balance-sheet.

Mr. H. E. SULLIVAN in seconding the motion, congratulated the shareholders upon the substantial position of the company.

Mr. J. D. WATSON said that the position and prospects of the company appeared to him to be of the most satisfactory character, and he was prepared at once to pay up the full amount upon the shares he held.

In reply to a question from Mr. J. O. MILLIDGE, the CHAIRMAN said it was the intention of the directors, before expending any considerable amount upon the machinery in ordinary use, to ascertain the results obtained from the use of a newly-patented machine now being erected at the works, and which promised to do as much work in 12 minutes as that now in operation could do in eight hours.

The report and balance-sheet were unanimously adopted.

On the motion of the CHAIRMAN, seconded by Mr. T. TUXFORD, Mr. Henry Lloyd Morgan was re-elected auditor for the ensuing year.

Mr. THOMAS PARLEY, in rising to propose the best thanks of the shareholders to the Chairman and directors for the successful manner in which they had conducted the affairs of the company, said that he was so well satisfied with the progress the company had made, and its future prospects, that he desired to double the number of his shares.

The motion was seconded by Mr. HENRY WHICHELLE, and carried unanimously.

The CHAIRMAN, in acknowledging the compliment, said the directors held amongst them 10,000<sup>£</sup> of the stock of the company, and were, therefore, deeply interested in its success. He hoped that at their next meeting the business would include the declaration of a very handsome dividend.—The meeting (which was attended by a large and influential body of shareholders, nearly all of whom either increased the number of, or paid-up the full amount upon, the shares they held) then separated.

#### RHENISH CONSOLIDATED MINING COMPANY.

The first annual general meeting of proprietors was held at the company's offices, Austinfriars, on Monday,

Major-General YOUNGHUSBAND in the chair.

Mr. J. H. MURCHISON (the secretary) read the notice convening the meeting. The report of the directors was as follows:—

The report of Messrs. Phillips and Darlington, the Consulting and Managing Engineers of the company, which will be laid before you, explains very fully the progress that has been made at the mines since the commencement of operations in October last. Your Directors believe that you will agree with them that the works have been pushed on with energy, and, at the same time, with every regard to economy. As intimated to you in the circular of the deputation which visited the properties in October, 1863, attention has been confined to a few of the mines which were considered the most promising, and were likely to be made profitable sooner and with the least outlay. At Christiansburg the machinery for pumping and drawing has been erected, and the shaft is being rapidly sunk under the adit by a full force of men. In the adit the lode looks exceedingly well, a discovery having been made there which, for the extent operated on, yielded 2½ tons of silver-lead per fathom. The development of the lode at a deeper level is, therefore, a point of interesting importance. At Bieblach, also, good ore has been met with, and the pumping machinery is expected to be at work in October, when more rapid progress can be made in opening the ground. The result of the operations at James Watt decided the engineers to recommend the immediate erection of machinery, and a steam-engine is now on the mine, and will shortly be at work. These are the chief points of interest at present, and, considering the results formerly obtained at these and some of the other mines held by the company, without the aid of machinery, acquiring for them "much local notoriety," your Directors agree with Messrs. Phillips and Darlington that the prospects "favour the conclusion that large and remunerative returns of ore will be derived from deeper explorations." By the accounts made up to June 28, 1864, you will observe that the available cash balance at that date, after charging expenses ofability, was 16077<sup>£</sup>. Hitherto the time has been necessarily occupied in carrying out the surface works and in erecting adequate machinery for deeper and more extensive development. In the next accounts will appear credits from sales of mineral, and your Directors trust and believe to such an amount as will be satisfactory to you and themselves. The auditors, Mr. Charles Wescob and Captain Watson, R.N., offer themselves for re-election.—A. YOUNGHUSBAND, Chairman, J. H. MURCHISON, secretary.

The report of Messrs. Phillips and Darlington (the Consulting Engineers and Managers) stated the concessions of the company were very numerous, and were chiefly situated in the north-eastern portion of Rhenish Prussia. The four mines selected for attack were the Bieblach, the Christiansburg, the Louise, and the James Watt. The prospects at the mines were altogether of an encouraging character. The pumping machinery has been erected, and discoveries of ore have already been made. It was hoped that monthly returns would be made during the current financial year.

The CHAIRMAN moved the adoption of the report and accounts.

The SECRETARY (in answer to a question) mentioned that the eight acres of land purchased for about 30<sup>£</sup>. per acre were now the freehold property of the company.

Mr. WESCOMB (one of the auditors) stated that he attached the greater importance to Messrs. Phillips and Darlington's report, simply because it did not promise too much.

A PROPRIETOR enquired the geological formation in which the mines were situated?

Mr. DARLINGTON replied that the formation at the James Watt was in the old red sandstone; but at the other mines the formation was that known as Devonian.

Mr. PHILLIP WRIGHT enquired whether Mr. Darlington could give the shareholders any idea as to where the mines would cost?—Mr. DARLINGTON said that everything depended upon the continuance of the veins in the lower levels. There were three or four deposits of good ore near the surface; but at present it was impossible to say what they would prove in depth, though the probabilities were favourable.

Mr. WESCOMB mentioned that the accounts could not be better kept. The costs were very moderate, and the preliminary expenses were nominal; in fact, everything had been carried on in a very judicious and economical manner. There was not a single item that one could put his finger upon, and say that it ought not to have been incurred.

The motion for the adoption of the report and accounts having been seconded by Mr. F. PAYNTON, it was put and carried unanimously.

The retiring auditors (Mr. Wescom and Capt. Watson, R.N.), were unanimously re-elected.—A vote of thanks to the Chairman terminated the proceedings.

#### TRUTH'S ECHOES, OR SAYINGS AND DOINGS IN MINING.

The Mining Share Market has been a little more active this week, and business generally shows a tendency to improve. The usual fortnightly settlement took place on Wednesday, but the account was very limited, arising from the dullness which has so long prevailed. The chief transactions for account appear to have been in EAST GREENVILLE, and they were rather scarce for delivery.

WHEAL SETON and WEST SETON have been much in request during the week, and several transactions have followed.—CLIFFORDS have been fairly dealt in, and continue in demand at fair market prices.—NANIGLES have been more than ordinarily dull.—EAST CARN BREAS are in better demand, and slightly improved.—EAST BASSETS have been rather quiet.—NORTH BASSETS receded during the early part of the week, but have since improved, and in better demand.—WEST FRANCES have been in good request, at improved rates, but shares are rather scarce.—GRAMBLER and ST. AUBIN'S have changed hands at nominal figures.—SOUTH CONDURROWS have been in rather better request at former quotations, and some business doing.—EAST WHEAL GREENVILLEs have been extensively dealt in during the week, and several fluctuations have followed.—WHEAL GREENVILLEs have not improved to the extent expected, but fairly dealt in at minimum prices.—GREAT LAXEYs are sought for, at buyers' prices.—NORTH CROFT and NORTH BOSKAR have been more in request, and several transactions have transpired.—NORTH TRESKERNs have varied, but left off firmer, and in fair request.—HALLENBEAGLES have fluctuated, with little business doing.—WHEAL KITTY (St. Agnes) have had a sudden decline, in consequence of a large number being pressed on the market.—GREAT BUSY and ST. DAY UNITED are sought for at buyers' prices; the latter have been in fair request.—GREAT NORTH DOWNS and EAST ROSEWARNE are rather quiet.—EAST LOVELLS continue to be offered at lower figures, but are firmer for cash than the time bargains.—STITHNEY and CARMEL are enquired for at lower rates.—GREAT WHEAL VORs have changed hands, but prices unsteady.—PROVIDENCE shares quiet.—MARGARETS have been done at nominal figures.—EAST CARADONS have been dealt in, but prices have fluctuated.—MARKE VALLEYS continue depressed, and but little doing.—HINTON DOWNS are enquired for at minimum rates.—EAST RUSSELLS have receded, and more freely offered.—CREEDON continue remarkably quiet.—NORTH DOWNS have declined, in consequence of the falling off in the caunter lode.

EAST CARDON.—Three improvements have to be noticed this week—in the 80 fathom level end east, on the caunter; in 80 fm. level end west, on the new lode; and in the 70 fm. level west, on the south lode lode.—Caunter: The 60 east is worth 5<sup>l</sup>. per fathom; the 70 east, 6<sup>l</sup>; the 80 east, 15<sup>l</sup>; and the 80 west, 20<sup>l</sup>. per fathom. The new lode, in the 80 west, is worth 9<sup>l</sup>. per fathom. The south lode in the 70 east is producing saving work. The 70 west is worth 20<sup>l</sup>. per fm.—CALSTOCK CONSOLS continues to improve in several very important places. In the back of the adit they have a lode yielding 3 tons of good copper ore per fathom; this is making in the junction referred to a short time since. There appear to be two lodes; the one discovered in cutting the railroad is 12 ft. wide, and of a most encouraging character. They have resumed the deep adit west on this lode, and expect shortly, from the general appearance of it, to meet with some important discovery; the lode not only having increased in size, but yielding some good stones of ore during the last 6 feet driving. Danescombe's lode has been opened on at another point, and is 5 ft. wide, composed of the elements for copper ore in depth.—OKELTON continues to look well in all places of operation. The 80 is represented to be yielding good stones of ore, and is approaching towards the points where the lode proved so productive in the upper levels. The 65 east is worth 4 tons per fathom, and likely to improve. The 50 has been more productive; but at present is not so good. There are three stope in the back, yielding respectively 8, 9, and 8 tons per fathom; and a winze below the bottom, worth 8 tons per fathom. There are several other points of operation, contributing fair proportions of copper ore.

NORTH JANE.—The prospects here are represented as of a more encouraging character, and larger returns are looked for with a great degree of certainty. There is a good lode at Kerr's shaft for tin. The western part of the mine, to which attention has been but recently directed, is opening up some good tin ground. The 30 is also reported to have improved, and there are several other points contributing fair proportions of good work for tin; but, in consequence of the scarcity of water, the returns are necessarily delayed.

SOUTH CUDNIA is represented to have improved for tin, looking much better in depth and likely to become highly productive at a deeper level. It is quite obvious that they have the same run of the ground as those in the Charlton United Mines; and, should they prosecute the operations to a sufficient depth, there is very little doubt that they will have a long and rich run of tin ground. Some of the most intelligent agents of the locality look upon the eastern ground adjoining the old or Great Crimlins Mine as a most important point, worthy of development, believing that had that company sunk deeper they would have had a second deposit of copper, equal to the vast wealth of the first. The advantages which South Cudnias possesses, situated in the middle of a great mineral district, with the improved appearances, will, if followed up by sinking, bid fair to become an important and productive mine.—WHEAL POLKEAR: The prospects in the south ground are considered very encouraging. Smyth's shaft is down about 11 fms. under the adit, and in the 12 they purpose cross-cutting to Smyth's lode. At the adit cross-

cut they intersected two promising lodes, which will take time to develop in the next level. Although the old mine has not been so successful as expected at one period, still it appears that further search is only necessary, for last week a discovery was made by tritubers on Flongeshare lode, which is turning out a large quantity of copperore. There are other points to which renewed operations are being directed, which are likely to prove productive.

NORTH DEVON.—The caunter lode in the adit is 14 inches wide, worth 15<sup>l</sup>. per fm. The lode in the 10, in which a winze is sinking, is worth 60<sup>l</sup>. per fathom. The stope in the back of the 20 are worth 14<sup>l</sup>. per fathom. The winze below the adit is through to the 10, and carrying good stones of lead. They have resumed sinking the winze below the 20, on a lode worth 25<sup>l</sup>. per fathom. Tons of silver-lead are now ready for sale, samples having been forwarded to the smelters.

CORNWALL TIN.—The operations are progressing satisfactorily, and the general prospects of the mine considerably improved. The lode recently intersected by the 60 cross-cut is opening out remarkably well, yielding good work for tin. The 70, and all other points, are much the same as usual. The sales of black tin will more than cover the expenditure and all costs of this month's workings.—LEEDS AND ST. AUBYN are represented to be looking very promising; during the last six months they have opened an extensive run of tin ground in the several levels, which is being taken away on tribute, at fair profits to the adventurers. Two sump-shafts have been sunk, and other deep work in course of operation, which will result in great future advantages. The returns of tin speak for themselves.

NORTH BASSET.—The recent discovery in the eastern end has declined in value. All other places are without any change.—At WEST BASSET they have intersected a lode in driving the 65 cross-cut, south from Thomas's shaft, of a very promising character, and worth 1 ton of copper ore per fathom.

EAST WHEAL FLORENCE.—The prospects here are represented to be of a very cheering character; and, although the operations are yet limited, great encouragement is afforded by the discoveries which are being made in course of sinking the engine-shaft. The general expectation of those who are interested in the undertaking is that they will have an important discovery as soon as the shaft is sunk to the ancient's workings.

NEW HENDRA.—The prospects here are improving, and likely to become of a productive character. The lode in the shaft (which is only down about 8 fms.) is more than ordinarily large, and producing excellent work for tin. In driving east they have a good paying lode, and the western end is also in tin ground. There are several other points looking uncommonly promising.—ST. JUST CONSOLS: The new lode recently discovered is of a very promising character, and now worth 7<sup>l</sup>. per fm. for tin; this is expected to fall in with the Guide lode in driving 35 fathoms, where some important discovery is looked for. Guide lode continues as productive as before noticed, and all other places are looking much the same.—At CAFE CORNWALL the operations are going on satisfactorily in the shaft and other places. Several discoveries have taken place, which are likely to lead to greater importance when more developed. When the mine is unwatered there is no doubt of large quantities of tin and copper being found, but it will take time to effect that work, as alterations will have to be made in the shaft as the water is drained. They proposed to resume the forking yesterday.

SOUTH WHEAL LOVELL.—The first general meeting of the shareholders was held on Monday last, when all the necessary arrangements were entered into for carrying on the undertaking with zeal, ability, and profitable results, as all the necessary elements are there. The Chairman congratulated the proprietors on the rapid completion of their share list, especially at a period when the mining share market was in an unprecedented dormant state. But he considered the well-known value and importance of the enterprise was sufficient to have induced the most sceptical, even in the dullest times, when the merits of the property were so well and highly reported upon. The banker's book showed upwards of 2000<sup>£</sup>. had been paid, which, being the amount required, the necessary rules and regulations for the management of the company were adopted, and the committee and respective agents appointed. A letter was read, stating that the operations which had been commenced were going on satisfactorily, and left little doubt in a short time some important discoveries would be made, as the most unexpected and encouraging prospects have become apparent.

JAMES LANE.

FOREIGN MINES.

ALTEN AND QUÄNANGEN MINES.—Estimated produce for July:—

| Mines.             | Ore.           | Per cent. | Copper. |
|--------------------|----------------|-----------|---------|
| Quännangen .....   | Tons 40 .....  | 6 .....   | 2400    |
| Kalpas .....       | 28 .....       | 4½ .....  | 1360    |
| Old Mine .....     | 140 .....      | 4 .....   | 5600    |
| United Mines ..... | 12 .....       | 4 .....   | 1600    |
| Total .....        | Tons 220 ..... |           | 9760    |

*Mining report from July 21 to Aug. 11.*

GUÄNNANGEN: Lode E: The working below the 10 is about 8 fms. long, and for about half (the east end) the length of which the lode presents a regular appearance, varying from 2 to 3 ft. in width, worth 3½ tons of good dredge work per fathom. In the opposite or western part, the lode is rather unsettled, whilst on the south side numerous veins of yellow and purple ore are found traversing the greenstone rock in almost every direction. The stope is extended to about 12 ft. in width, and still some of the side will pay for taking down; the general inclination of the ore-ground at this point appears to be westerly, and after a careful examination, whilst on the spot last week, we came to the conclusion that the continuation of the 20 west is the most economical and advantageous mode for its further development; we shall, therefore, resume it without delay. This is driven about 5 fms. west of the cross-course; the lode continues to yield good specimens of rich grey ore, but in the end of the level it is unsettled, and the driving is suspended. Our operations in the eastern part of the mine are confined to a stoppage below the adit, where the lode is 2 ft. wide, yielding 2½ tons of ore per fathom. At mine C, a bar of ground of unusual hardness has been met with in the adit, and in consequence our progress of late has been very slow. Some 2 fms. behind the end a quartz branch, spiced with ore, strikes off more westerly, and about which the ground is easier; we, therefore, propose opening up on its course a short distance; the direction is towards the old working, and possibly the branch may be connected with the main lode. In a tributary pitch on the back of this lode (C) we are raising some good quality yellow ore, and the indications are highly promising, the vein being now worth 4 tons of ore per fm., but being in the gossan we must expect to find it changeable. Pitches continue to be worked in various parts of the mine, which look much the same as for some time past. The dressing, as well as all the other operations, are being carried on with energy, but as our working is not yielding much solid ore, we are prevented from showing such good results as we could desire.

RAIPAS.—In the back of the 10, south-west, the lode is 2 ft. wide, composed principally of barytes, with about 2 tons of good ore work per fathom intermixed. We are still opening on the small vein below the 20, which is small, but the signs are good, and the quality of the ore rich. In the adit level north-west we continue to meet with small grey branches, some of which pay for dressing. The adit foot stope yields about 2 tons of ore per fathom, but owing to its being so highly disseminated the quality is lower than usual.

OLD MINE.—In the roof of the 5 north the lode is 8 ft. wide, worth about 3 tons of ore per fathom; this place being rather poor, we are only carrying a small working, our object being to explore the large extent of ground above. His Royal Highness Prince Alfred broke some good specimens of ore from this end and, in consequence of the progress of late, we have met with a rich vein. The Duke of Roxburgh, who went through the mine on Monday last, accompanied by the special artist, all of whom expressed themselves much pleased. The prospects in the 5 fm. level north continues very promising, where the lode is 2 ft. wide, with good work intermixed throughout. The stope (two) in the west side of the level have rather improved, and the lode at present looks well, being 8 ft. wide, worth 4 tons of ore per fathom. There is no change to note in the working south of Petersen's. In No. 1 stoppe the leader of ore against the footwall looks equally kindly, and now yields 3 tons of ore per fathom. We are pleased to see the good signs holding in the direction northerly, it being quite unexplored. The lode above the 10 fm. level, varies from 3 to 7 ft. wide, and yields ore work, but the quality is unduly. The 15 fathoms side stope looks rather better, where the lode is 1 fm. wide, worth 3 tons of ore per fm. The lode below the 10, against Carr's, progresses favourably, as does also the rise from the adit, and in a few weeks we hope to complete this expensive, but highly desirable undertaking. In the stope above the midway level the lode is 2 ft. wide, yielding 1½ tons of ore per fathom. No change to note in other parts of the mine. The stope Ward's still looks kindly, the lode being from 3 to 5 ft. in width, yielding good ore work. The pitches at Woodfall's continue to yield some gossan and yellow ore, but the operations here, as well as at the old mine, have been subject to great interruptions of late, owing to the continual demand for men at other places, especially the smelting works, which require most of the able hands. The quarterly abstract will not be forwarded by this mail, but as near as we can now ascertain the mining expense will be Sp. 9984 1—C. TRELEAKE.

PACHUCA.—Cyrus PAUL, July 26: I mentioned in my last that we had

crashed in San Juan shaft, which I then thought to have secured in a week, but it has turned out much worse than I expected. I found the old timber so much decayed that it was necessary to remove the whole of it to a little below San Jorge level. I trust, however, we shall be able to make it quite secure this week, and commence driving out the water, and resume the driving of La Cruz level, &c. We have also to suspend the sinking of the winze below San Jorge, on account of the crush having filled the level close to the shaft with timber and stuff. San José cross-cut is now 17 varas from the adit, and the water has been very hard for the last four weeks, but is now again favorable for driving. The ground has been very hard for the last four weeks, but is now again favorable for driving. There is very little alteration in the Santiago level, east of San Luis, since my last, and we have not driven any in the western level, on account of the air, which I consider to be worse in consequence of the rain and fog we have had lately. We have reached the bottom of the old shaft, which is short 13 varas to Santiago level. About 3 varas above the bottom there is a stream of water coming from the east end, that has prevented us from sinking, but as soon as we meet with the junction in Santiago level I expect the water will drain the old shaft; we shall then be able to sink, and soon make the communication. We have cleared several varas of workings to the east; the lode is about 2 ft. wide, with hard quartz in the jahones, and a good deal of broken.

CAPULA.—R. BRAY, July 25: The level of San Enrique has been driven

since my last, of June 24, 4:45 varas, at something over \$30 per var.; this is much harder now than heretofore, and all in quartz, without ore; the lode, however, is more

## Mining Correspondence.

## BRITISH MINES.

**BAGTOR.**—W. Hosking, Sept. 1: We have commenced a winze in the bottom of the 16 fm. level, on Prosper lode, about 25 fms. west of Prosper engine-shaft, where the lode is greatly improved, being about 2 ft. wide, and worth about 12*t*. per fathom. The lode in Prosper engine-shaft, sinking below the 16 fm. level, continues 1½ ft. wide, and carrying a little tin. The lode in Quickbeam engine-shaft, also in the ground in which it is embedded, is greatly improving as we sink; the lode is producing frequently very rich stones of tin; the ground is becoming much more soft and congenial, and I am strongly of opinion that we shall soon have a profitable lode here.

## UNITED MEXICAN.

below the adit level. The new trial at Seafell continues without change. At Glenroy we are pushing on the clearing and repairing of the old level north, with all possible speed, and as far as can yet be ascertained, are likely to complete the same by the end of next month. We have started a new level, to drive south, on what we suppose to be Seafell lode, a little to the east of Glenroy Mine. The level is driven about 2 fathoms; the lode is large, but so far unproductive, being yet only a few feet below the surface. In the old mine I consider the result of the past month's working has been very satisfactory indeed, and as the new engine, in connection with the crushing-mill, will be ready to work in a few days, we may then reasonably anticipate increased returns of ore.

**GREAT NORTH DOWNS.**—J. W. Crase, W. Jenkins, Aug. 27: At Vivian's engine-shaft the men are employed casing, dividing, and bedding the same down to the 67. The lode in the 67, driving west of engine-shaft, is worth 81 per fm.; the lode in the winze sinking below this level is producing saving work for copper ore; the lode in the stopes in back of said level is worth 81 per fm. The lode in Jenkins' shaft, sinking below the 67, is producing stones of copper ore, but not sufficient to value. The lode in the 57 end, driving east of the latter shaft, is worth 77 per fm. No change in the 57, east or west of cross-cut, on Pendarves' lode, during the past week; this will also apply to Rule's shaft, sinking below the 40. The lode in Sleggan's shaft, sinking below the 62, is in unproductive ground, favourable for sinking. The lode in King's shaft, sinking below the 75, has a very promising appearance; worth at present 127 per fm., and looks well for improvement. The lode in the 75 end, driving west of the shaft, is yielding stones of copper ore. No alteration in the winze sinking below the 57, west of King's shaft, since our last. The lode in the 57, driving west of this shaft, is looking very promising, and worth 151 per fm.

**GREAT RETTALLACK.**—W. H. Reynolds, Aug. 30: The ground continues favourable for driving in the adit and east, and we expect to intersect another lode shortly.

**GREAT SOUTH CHIVERTON.**—J. Narcarow, J. George, August 29: The newly-discovered lode, referred to in the report of last week, runs nearly north and south; we have opened on it 5 fms., and find its average width to be about 2 ft.—composed of a fine strong gossan, and is letting out plenty of water, which indicates most favourably for the production of lead. We are pushing on this end southward as fast as possible. The other end is also being driven on the lodes previously discovered, which presents the same promising appearance as when last reported on.

**GREAT SOUTH TOLGUS.**—J. Daw, Aug. 31: In the 166 fm. level, west of Lyle's shaft, the lode is 1½ ft. wide, disordered and unproductive. In the rise in the back of the 154 fm. level, east of cross-cut, the lode is 1 ft. wide, producing stones of copper ore. In the 154 fm. level, west of cross-cut, the lode is 1½ ft. wide, producing 2 tons of ore per fathom. In the 154 fm. level, west of Lyle's shaft, the lode is 4 ft. wide, worth 121 per fathom for tin. In the winze sinking below the 140 fm. level the lode is 1 ft. wide, producing 1 ton of ore per fathom. In the 125 fm. level, west of Lyle's shaft, the lode is small and unproductive. In the 100 fm. level, east of Noel's shaft, the lode is 1½ foot wide, producing 1 ton of ore per fathom, and is promising for improvement. The stopes are still looking very well.

**GREAT WHEAL BADDERN.**—J. Jenkin, Aug. 29: Hill Brothers Shaft: In the tin stopes cast of Buckley's shaft, in bottom of the 25, the lode is 3 ft. wide, producing fair average work for the stamps. In the stopes near the shaft in bottom of the 25 the lode is 2 ft. wide, producing tin. Surface operations are progressing satisfactorily.

**GREAT WHEAL BUSY.**—J. Edwards, J. Petherick, J. Tradwick, C. Bawden, Aug. 27: The lode in Harvey's engine-shaft, sinking below the 140, is still disordered by the elvan course. We have driven through the cross-course in the 140, east of the engine-shaft; as yet there is no improvement in the lode. There is nothing new in the 140 or the 130, west of Fielding's shaft. We hope to get offord's shaft to the 140 in a month from this time. The stopes in the back and bottom of the 130, east of offord's shaft, are worth respectively 201 and 401 per fathom for tin and copper ore. The lode in the 130, east of said shaft, is yielding a little ore, but not sufficient to value. The lode in Mathew's shaft and 110 east are producing good stones of copper ore and a little tin. The lode in the 90, east of said shaft, is at present disordered by the elvan. The lode in the 80, driving east of ditto, is 5 ft. wide—unproductive. The lode in the 70 end and stopes in the back, east of Mathew's shaft, are worth respectively 101 and 141 per fathom for tin and copper ore. The ground in the 30 cross-cut, south of Walker's shaft, is favourable for driving. We hope to finish the collar of Walker's shaft by Tuesday.

**GREAT WHEAL FORTUNE.**—J. Vivian, N. Miners, T. George, Sept. 1: Carmel engine-shaft is sunk 14 ft. below the 114; lode 2 ft. wide, very much improved in appearance, producing a little tin. The shaftmen are now engaged in cutting cistern-plat, which, together with fixing lift, and make everything complete for sinking, will take about ten days, when the sinking will be resumed.—Old Mine: The 95, driving east of cross-cut, on Blue Burrow lode, is worth 127 per fm.

**GRAYLLS WHEAL FLORENCE.**—Edmund Rogers, Aug. 30: The lode in the engine-shaft is maintaining its size and value, being 4 feet wide, worth 301 per fathom for tin, and producing occasional stones of copper ore. In cross-cutting north and south, in the adit and 19 fathom levels, there is no alteration; the ground is favourable for driving. At surface we are excavating ground for fixing flat-rods from the engine to the shaft.

**GWYDYR PARK CONSOLS.**—W. Smyth, Aug. 31: No change to notice in Gwydys deep adit since last reported; re-set to six men, for the month, at 121 per fm. No lode taken down in Gwydys stopes since last week; set to stop to four men, at 60s. per fathom, and to drive the middle level, to two men, at 61. 10s. per fm., for the month; these are one pair, as their stuff will mix together. The dressing is again at a stand for want of water to crush.

**HALLENBEAGLE.**—J. Edwards, E. Richards, August 27: The old engine-shaft is now cleared to the 40, which is the bottom, and dry at this point; there is a cross-cut driven south 4 fathoms on the cross-course, but we cannot yet ascertain whether the lode is intersected or not in consequence of foul air. We find the old workers have taken away the lode to a great extent in the upper levels, which we consider a good indication in depth, as the shoots of ore in Wheal Rose deep levels are dipping towards this point. There is also a cross-cut driven north from said shaft at the 40, on the cross-course, to cut the Wheal Rose lode, which is underlying south and towards the shaft, but in consequence of foul air we are obliged to suspend the clearing for the present. We propose clearing up a shaft south of the above, for the purpose of a footway and for ventilation, which shaft is as deep as the 30; no time will be lost in accomplishing the same, and when done we shall commence sinking the old engine-shaft below the 40; judging from the lode taken away in the upper levels, we consider this to be a good speculation. The engine-shaft is cleared 2½ fathoms below the 40, which is down to the water; the shaftmen are engaged cutting ground for cistern-plat to receive the pit-work at the 40. There is nothing new to notice in Stone's or the eastern shaft for the past week. At Bawden's shaft, on Reed's lode, sinking below the 33, the lode is 9 in. wide, producing stones of copper ore. The lode in the winze sinking below the 33, east of Bawden's shaft, on Reed's lode, is 1 ft. wide, producing mantic and peach, with good stones of copper ore, a little improved in the past week. We have cleared the 40 west of Stone's shaft, on south lode, 30 fathoms, and hope to let some timber pitches here in the ensuing week. We have six pitches working on the north lode, in bottom of the 40, west of Stone's shaft, which are worth an average from 121 to 131 per fathom for copper ore; two pitches in bottom of the 36, on the same lode, east of Stone's shaft, worth full 101 per fathom. All other pitches throughout the mine are yielding their usual quantity of copper ore. We still consider the mine one of great promise; we have five productive lodes passing through the seat—North Wheal Rose, Gats's, Held's, and East Wheal Chance; and when drained to the bottom, and cleared we have every reason to believe this property will be of the first-class. The caunter copper lode has not yet been intersected at the junction of either of the lodes below the deep adit, and looking at the junction at the deeper levels we may reasonably expect good results. All the surface operations are progressing satisfactorily.

**HAVAN.**—George Jones, Aug. 30: The sinking of Carrington shaft below the 10 is progressing satisfactorily, and quite as valuable for lead ore as when last reported. The lode in the 10 east is of a very kindly appearance, but not quite so productive as heretofore, worth from 12 to 15 cwt. of lead ore per fm. There is no change in the stopes in the back of the 10. No. 3 stopes, in the back of Seton's adit, has improved, worth at present 1½ ton of lead ore per fathom. We are sampling to-day 50 tons of lead ore, for sale on September 8.

**HAWKMOOR.**—J. Richards, Aug. 30: In the adit level, driving west on No. 3 lode, we have intersected the large cross-course, into which we have driven about 4 ft.; I expect we shall find it several fathoms wide; immediately on getting through it cross-cuts will be commenced for the intersection of the lodes on the western side thereof, which I hope to find more concentrated and productive. In the back of this level the lode is 2 ft. wide, composed of quartz, capel, mantic, and good work for tin ore.

**KELLY BRAY.**—Ed. Rowe, Aug. 30: Saturday last is being our monthly setting-day, the following tuitwork bargains were let:—The 70 east to drive by four men, stent 4 fms., at 41. 5s. per fm.; the lode at this point is improving in character, and becoming more porous, from which a considerable increase of water is issuing. The 60 cross-cut north to drive by six men, stent 2 fms., at 91. per fathom; the ground at this point is a little stiffer for progress, in consequence of some hard floors of spar coming in contact with the end. The 40 east to drive by six men, stent 2 fms., at 41. per fathom. The stopes in bottom of the 25 east, from western shaft, by four men, stent the month, at 27. 10s. per fm.; the lode in this stop is worth 61 per fm. All the wheeling, trammimg, filling, and landing in the mine for one month, at 101.

**LADY BERTHA.**—Capt. Harpur and Metherell, Sept. 1: Since our last report no very material change has taken place in the appearance of the lode in any part of the mine. In the new eastern shaft, which we are now sinking below the bottom of the 41, the ground is moderately favourable for exploring. In the end driving north-east of the 41 the lode is about 2 feet wide, composed of fluor-spar, mantic, and spots of ore. The stopes in the bottom of the 41 west are without change, the lode being about 3 ft. wide, composed of quartz, mantic, and ore; worth of the latter 5 tons, or 201 per fm. In the 30 east the ground continues pretty favourable for driving, the lode being small, consisting of flockan, mixed with mantic and ore. In the cross-cut driving north, in the 10 east, the ground is of a very congenial appearance, traversed by numerous branches of mantic, carrying strings of ore. In the tribute department the pitches are producing about the same as for some time past.

**LANIYET.**—J. Tregay, Aug. 27: The lode at Oulton's engine-shaft is improving in appearance, and producing very good stones of tin, but the ground is still rather hard for sinking, and as we are now down 12½ fathoms, it is necessary to cut a plat at that level, which we have set at 251; as soon as this plat is cut we shall be enabled to drive east and west on the course of the lode, from which drivage we expect to raise paying tin-stuff.—Petrie's Engine-shaft: The main part of the lode is standing a little north of the shaft; the part we are carrying produces good stones of tin. We are now down 13½ fms., and it is necessary to cut a plat at the level, which has been set at 121. 10s.; as soon as this is accomplished we shall be enabled to drive here also on the course of the lode, and sink the shaft at the same time this shaft has been sunk in the month 2 fms. 3 in.

**LEEDS AND ST. AUBYN.**—J. Curtis, Aug. 30: Since our last working we have completed the flat-road shaft from the 30 to the 30, and opened out on the lode in the 30 nearly 30 fms., the back of which are now working at 7s. in 12. The 20 we have driven through a lode about 50 fms., the backs working at from 6s. 8d. to 10s. in 12. The 10 we have driven about 75 fms.; the backs working at from 4s. to 9s. in 12.—Standard Lode: We have opened in the 10 and 20 fm. levels about 50 fms.; the backs working at 10s. in 12. Paul's Lode: We have sunk the shaft from the adit to the 10, erected and laid down 90 fms. of flat-rods, and driven a cross-cut towards the lode 10 feet, in which we have intersected several branches. Our expenses during the last six months have increased by having two sump-shafts sinking at the same time. We shall now begin to reap the benefit of them, and out two last sales of tin will speak for themselves. We have 18 men on tuitwork and 30 on tribute, at an average of 9s. in 12.

**LONG RAKE.**—F. Evans, Aug. 31: There is a very good branch of lead on in the engine-shaft, sinking below the 80, and taking the whole shaft it will produce 2 tons per fathom. The 80 east is driving in an improving lode, and producing good saving stuff for lead. The 70 east yields good lumps of ore, but not regular. The 60 east is spare for driving, worth 1 ton per fm. The pitches are turning out large quantities of ore, and we shall sell for the next sampling 25 tons per tribute, at an average of 9s. in 12.

**MAUDLIN.**—J. Tregay, Aug. 27: Old Mine: The lode in the 70 west end produces mantic, with occasional stones of ore; ground driven 2 fms. 6 in.; set to drive by six men, at 102 per fm., 2 ft. extent. At Coome the ground is rather hard for driving; set to drive by six men, at 81 per fm., for 6 fathoms extent; ground driven in 27 fms. 3 ft. 6 in.

**MOLLAND.**—T. Bennett, Aug. 31: We have had some rain here during the past week, but not sufficient to increase our condensing water before last night. We have now a sufficient supply of water to work the engine, and should it not fall off again I hope we shall get the water out of our bottom level by the end of this week. The stopes in back of the 42 east are producing 1½ ton of ore per fathom; set to four men,

2 fms., at 32. 10s. per fathom. We are now making good progress in clearing and repairing the 32 east, and I hope by the end of another week we shall be in a position to commence working on ground here either in sinking or stopping.

**MINERA UNION.**—Wm. T. Harris, Sept. 1: Brathen's Shaft: In the 80 north, on the footwall side of the lode, we meet with tumbler of limestone; we have commenced a cross-cut to drive east into settled ground; in doing so we get occasionally stones of lead. The main level, driven on the eastern portion of the lode, is without alteration, producing a little lead. The levels from the top of the rise produce good lead, and are very promising. The pitch in the bottom of this level, by No. 1 winze, is worth 3 tons of lead per fathom. The pitch in the back of this level, south of No. 2 winze, is worth 10 cwt. of lead per fm. The pitch south of winze is worth 5 cwt. of lead per fathom.—William's Shaft: The pitch in this portion of the mine are as last reported.

**NANT-Y-LAGO.**—J. P. Rosch, Sept. 1: In the 30, west of the engine-shaft, the lode is 4 ft. wide, composed of carbonate of lime, slate, and a little blende and lead ore, but not enough to save; we are daily expecting a change for the better as the level extended. In the same level east the lode is 3 ft. wide, exceedingly wet, and very sparse for driving; a good mixture of ore is being broken from the forefront, but the lode appears to be richer in the back of the level. The lode in the 20 west is 3 feet wide, and has considerably improved within the last day or two; the forepart is now worth from 10s. to 12s. per fathom for ore and blende, with prospects of a greater improvement. I believe this run of ore to be a continuation of the same that we are now stopping in the bottom of the 10, as it is precisely the same in character, and should this be the case, it speaks well for the whole ground standing above. In the winze sinking under the 20 east no lode has yet been taken down, and from appearances I believe it is good. The stopes in the bottom of the 10 is worth 81 per fathom for ore and blende. We shall send off next week a parcel of lead ore, from 11 to 12 tons. The prospects throughout are improving.

**NEW CHIVERTON.**—James Juleff, Aug. 31: There is a very kindly-looking lode in the 20 end east. The stopes are still looking pretty well. We are making better progress in clearing the 20 west, and we hope to see this end shortly. The engine-shaft is sinking in a good channel of ground, and the men making good progress.

**NEW CROW HILL.**—W. Trelease, Aug. 30: We are still frozen up here, and all the hands we have now employed are at Louis, and, I may add, we are getting on there very well with clearing up the engine-shaft, and I think we shall be able to get down deep enough with the windlass to enable us to drop away the pumps, but to do this I have been obliged to put on four men in a core, and they relieve in the pit, as the water-hand-take is very powerful, being over 500 barrels in eight hours, still I think we shall accomplish our object.

**NEW EAST RUSSELL.**—J. Gifford, Aug. 30: In the deep adit west the air is so bad for want of water for the water-fails that two men are as many as can work there at present. The south part of the lode, which we are now driving on, is 2 ft. wide, yielding stones of yellow copper ore, but not enough to value. The new engine-shaft is down 6 fathoms, collared up, and made secure 12 feet long by 6 feet wide within timber; the ground is favourable for sinking.

**NEW LAXEY.**—R. Rowle, Aug. 30: I have just returned from this mine. I find the lode in the shaft, sinking below the 60, scarcely as good for lead as lately reported, now worth about 1½ ton per fm.; the lode is 3½ ft. wide in the north end, and about 2½ ft. in the south end of the shaft; it seems to me the dip of the ore ground in the bottom of the 60 west is 3 ft. wide, producing a little tin, but not to value. The stopes in the 58 east and west of winze, are each worth 61 per fm. The lode in the 55 west is 3 ft. wide, producing a little tin, but not to value. The stopes in the 58, east and west of winze, are each worth 60 per fm. The lode in 46, west of Bickford's, is small, producing stones of copper ore.

**NEW TRELEIGH.**—S. Michell, Aug. 26: Our tuitwork setting took place to-day, and the following is the result:—The 90 to drive west of Carr's engine-shaft by four men, at 91 per fm.; the lode in this end is become more settled, and producing good stones of tin; the 80 to drive west of the same shaft by four men, at 91. 10s. per fm., the level to be carried 7 ft. high by 3 ft. 6 in. wide for a tram-road; the lode in the end will turn out 2 tons of ore per fm. The winze to sink below this level by six men, at 101 per fm.; the lode at the present time will yield fully 3 tons of ore per fm. A winze to sink below the 70 about the same distance from the shaft as the one sinking in the 80; the lode here is large, with good stones of copper ore in it, a very promising lode—set to four men, at 71. 10s. per fm. In consequence of the water being so plentiful in the 70 and west of the cross-course, renders the end troublesome and spare for driving; this part will be drained when a cross-course is intersected in the 80, which will greatly facilitate our operations there, and under the present circumstances we thought it advisable to suspend the driving of this end for a short time, and employ the men to sink the winze before referred to in this level. We have four men employed clearing the adit, and making preparations for sinking the new western shaft.—Aug. 31: There is no alteration in the mine to notice since the above date. Good Fortune engine is turned idle-to-day.

**NEW WHEAL MARTHA.**—H. Rickard, G. Rickard, Sept. 1: We have been driving west at the 86, and carrying about 2 feet of the lode, which is worth 61 per fathom for the part already seen; this is done in order to have a larger space for the water to discharge itself, and to facilitate our progress in cutting through the lode. The lode in the 74 west is 3 ft. wide, producing good stones of tin and copper ore. The stopes in back of the 67 west is 3 ft. wide, producing a little tin, but not to value. The stopes in the 58 east of the same level, east of Bickford's, is worth 61 per fm. The lode in the 55 west is 3 ft. wide, producing a little tin, but not to value. The stopes in the 58, east and west of winze, are each worth 60 per fm. The lode in 46, west of Bickford's, is small, producing stones of copper ore.

**NEW WHEAL MARSH.**—T. Gill, Aug. 26: Our tuitwork setting took place to-day, and the following is the result:—The 90 to drive west of Carr's engine-shaft by four men, at 91 per fm.; the lode in this end is become more settled, and producing good stones of tin; the 80 to drive west of the same shaft by four men, at 91. 10s. per fm., the level to be carried 7 ft. high by 3 ft. 6 in. wide for a tram-road; the lode in the end will turn out 2 tons of ore per fm. The winze to sink below this level by six men, at 101 per fm.; the lode at the present time will yield fully 3 tons of ore per fm. A winze to sink below the 70 about the same distance from the shaft as the one sinking in the 80; the lode here is large, with good stones of copper ore in it, a very promising lode—set to four men, at 71. 10s. per fm. In consequence of the water being so plentiful in the 70 and west of the cross-course, renders the end troublesome and spare for driving; this part will be drained when a cross-course is intersected in the 80, which will greatly facilitate our operations there, and under the present circumstances we thought it advisable to suspend the driving of this end for a short time, and employ the men to sink the winze before referred to in this level.

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[SEPT. 3, 1864.]

MINING NOTABILIA.  
[EXTRACTS FROM OUR CORRESPONDENCE.]

**GOLD IN WALES**—CASTELL CARN DOCHAN.—The amount of gold returned this week is 6 ozs. 5 dwt., from 21 cwt. of quartz, making a total of 72 ozs. 18 dwt. 12 grs. to August 30.

**WELSH GOLD MINING COMPANY**.—This company received during the past month 137 ozs. 6 dwt., 14 grs. of gold, from 169 tons 16 cwt., 2 grs. of ore, averaging 1½ ounces per ton.

**GREAT WHEAL VOR**.—The prospects at Wheal Metal Mine continue to be remarkably good. They have a good lode in Ivey's shaft, also in the 102, west of Metal. There is an improvement in the 184, west of Metal shaft.

**AT FRANK MILLS MINE**.—They sampled 90 tons of No. 2 ore on Thursday. The mine is looking quite as well as any former period. Capt. Nicholls and Cornish reported upon the operations at the mine. The quantity of No. 2 ore sampled is greater than at the corresponding period of last quarter, but the quantity of No. 1 dressed has been less, owing to inability to get men to raise that quality from the 100 fm. level. Should they be able to get men soon, they will get their No. 1 parcel ready by the usual time for the next sampling.

**CALVADNACK**.—The prospects of this mine increase, as an improvement in the principal lode has taken place the last few weeks. No. of shares, or parts, 915.

**IN GRAMBLER ST. AUBRY** (486 shares only) a great change is taking place in the lode and granite in the engine-shaft, which is down to the 84 fm. level, giving great expectations for good improvement in a few fathoms more driving.

**WEST WHEAL FRANCES** shares, since their being noticed in the Journal, are moving up quietly in price. It is remarkable that these shares (only 512 in number) are at a figure to make the mine, which is between East Grenville, South Frances, and West Bassett, sailing for (say) 17,000£, though the lodes are valued at 130£, whilst the former (East Grenville) is at 43,000£, and the latter at 60,000£, the lodes, in the aggregate, of East Grenville being about half the value of West Frances. As East Grenville Mine cannot be considered to be rated at an extravagant sum, there must be a large margin for a rise in West Frances, owing to the want of public interest at present taken in it.

**PENNANT SLATE COMPANY**.—At a directors' meeting, held at the offices in Shrewsbury, it was decided that the few remaining shares should be sold at 17 per share premium. This looks promising for a company so lately formed; but we understand the slate is likely to prove of first-class quality.

**NEW WHEAL VOR AND METAL UNITED**.—This sett, which adjoins East Wheal Fortune on the east, and is a continuation of the same lodes and branches, has recently been set to work under the most favourable auspices, and with the fairest prospects of success. In the adit level, which is from 18 to 20 fathoms deep, several large, well defined lodes have been discovered, one of which is 8 feet wide, yielding tin of rich quality. This lode, from its appearance and underlie, is evidently the great Carnarvon lode, which traverses the whole length of both this sett and East Wheal Fortune, and forms a junction with other lodes underlying towards it. The sett is extensive, and being situated in a beautiful light killas, near the junction of granite, and traversed by lodes that have given immense riches in the adjoining western mines, there seems every probability that its development will be crowned with success. The recent extraordinary discoveries of tin at Great Wheal Vor and Metal, which are, perhaps, unparalleled in the history of Cornwall, have given an impetus to mining in this district, and more particularly to the ground east of the Trevarno Valley, to which attention is now chiefly directed, and which, it is the prevailing opinion amongst old miners, is a field of immense mineral wealth.

**CURTIS**.—The Curtis lode has been cut in the 30 fm. level cross-cut north. Little can be done and nothing said on this for a few days, on account of the immense quantity of water in the end. The mine sales will shortly report for itself.

**ROARING WATER**.—The report of Mr. George Henwood upon this property, in this day's Journal, is a most satisfactory testimony to the value and prospects of these mines; we have long entertained a strong opinion that the south-western part of the county of Cork would turn out a fine field for mining enterprise. Such appears now to be the case, and no one has a greater right to speak on these matters than Mr. George Henwood; he visited this district some years since, and his recent visit has confirmed all his former anticipations; he found Cappagh and Ballycunnink the deeper they sank the more productive they proved, and that the vulgar error as to the rich ore not holding down in depth has been completely exploded by the practical workings of those rich mines, which have now obtained a very important depth, Ballycunnink being 120 to 130 fms. The Roaring Water Mine is opening up with great promise, which is a continuation of the same lodes, with much easier ground, and possessing greater advantages. At Gilligan's shaft, the new lode is just coming in, which promises to be one of considerable value. At Grady's shaft and west shaft returns are making of grey ore, richly impregnated with silver. All the mining men in this district are looking with great interest to the development of the Roaring Water Mine.

**ROSEWARNE UNITED**.—An important discovery has taken place here.

**EAST WHEAL FORTUNE** (Sithney).—In a shaft sinking below the old men's workings, in the south part of the sett, a very fine lode has recently been discovered, about 2 feet wide, composed of pyrite, quartz, and branches of tin of the richest quality. The shaft is down about 9 fathoms from surface, and the lode is improving in depth, and from its present underlie will be intersected in a cross-cut from the adit level, nearly 30 fms. deep. In the course of a few fathoms driving, should it be there found as rich as it is in the shaft, a great many fathoms of rich tin ground will be opened up. The adit level, which is many fathoms west of the above shaft, is opening east on another lode of a very promising nature, and on being extended a few fathoms further east, a cross-cut will be driven north and south to intersect the other parallel lodes, which, from the great extent of old surface workings, must have yielded large quantities of tin. There are few pieces of unexplored mineral ground in this celebrated district—I may say in the county—that present greater attractions or more promising indications of success, if properly developed, than this, and its value is daily becoming more apparent. From its network of lodes and branches, all producing tin of the richest quality, numerous intersections, and the congenial tin-producing stratum in which they are embedded, there seems every reasonable ground for anticipating here a tin mine of great value and extent.

**WHEAL CURTIN**.—The lode in Square's shaft still continues to hold good, worth about 8£ per fathom, cost of sinking 8£ 10s. per fathom. This will lay open profitable ground as we extend our levels. The 10 fm. level east and west is laying open open tribute ground. We have just cut into the lode in the 30 fm. level cross-cut north. It is letting down a large quantity of water, so that we can say nothing respecting this week, excepting that the water is gone down 9 fms. below the adit in the old workings.

**THE NEW MINING DISTRICT ROUND OKEHAMPTON**.—I was glad to notice, simultaneously with my letter to you last week, on the new mining district about Okehampton, you also published one from another correspondent, announcing the opening of one more mining undertaking close to the town, showing that public attention is rapidly being turned to the development of this very promising, but hitherto neglected, district. Since I wrote to you last week, the accounts from the Devon Copper Mine are most encouraging. The agent writes that in the adit level a cross-course has been intersected, about 6 feet wide, composed of capel, spar, and mundic; and as the lode (or the portion of it being carried) produced some very good copper ore, with plenty of gossan, up to within a few feet of this cross-course, with most favourable indications, he considers there can be little doubt of meeting with some good ore ground at this point in deeper levels. The lode in the shaft also continues to improve, and the ground is most favourable for rapid and cheap sinking. The meeting takes place on Tuesday next.—"EASTWARD, Ho!"

**CLEER'S HILL**.—During the past two months this mine has been inspected and favourably reported on by Captains Symons, Rickard, Puckey, Parkyn, Billing, Buse, Hooper, Yelland, Cock, &c.

We observe that the COED MAWY POOL MINING COMPANY (Limited) is to be wound-up voluntarily. The mines and materials are to be sold by the liquidators; this is a very unexpected result, the company having raised and sold, or paid in dues, or to an amount exceeding 14,000£. The failure of the water supply, after the expenditure of nearly 8000£, in the various attempts to secure it in a body sufficient for the sinking operations, and the disinclination of the shareholders to raise capital for the application of steam-power, are the causes of this abandonment. We cannot doubt but that this valuable property will be purchased, and ample capital provided, by a new company. There are six good lodes ascertained to increase in value in the descent, and if steam-power had been applied at the commencement of the operations, no doubt dividends would have been long since available. It is another instance of the many upon record where the original shareholders have abandoned undoubtedly valuable properties, from disinclination or inability to subscribe sufficient working capital. In all probability strangers will reap the benefit of the costly struggle which has closed the career of the old company.

**CLANE**.—The improvements which have taken place in this mine are of the greatest importance, taking into account the fact that the lodes of South Roskar and Old Wheal Gerry, or Chance, Seton and Wheal Seton, the Dolcoath counter, and several other large lodes, with three of the finest elvan courses, pass through the sett. The most important of these improvements is the meeting with the lode in the shaft at 88 fms. under adit, which has not been seen in the shaft under the 60 fm. level. The copper taken from the present sump is quite characteristic of the district, being worth about 11£ per ton. The mundic is very strong, and the surrounding country changed for the better. Water is bursting up from the bottom to the height of from 2 to 4 ft., draining the 60 and 80 fm. levels, the importance of which cannot be over-estimated, proving as it does that there is a large open lode to the west of and beneath us. The next improvement is in the 60, passing out of the elvan, where there is a leader of ore and jack, 6 in. wide, and a leader of mundic, 1 ft. wide, nearly solid. This is a most important point, and great results are expected when the lode is clear of the elvan. It has been further ascertained, by the dialling of Capt. Stephen Davy, that the great point for which the working of this mine in August, 1860, was undertaken—the proving of the Brigant or Wheal Seton lodes in depth—has not been attained, the cross-cut from the Crans lode not having been extended far enough north to cut the Brigant lode, that which was supposed to be the lode being only a branch. This cross-cut level has been resurveyed by six men, and it is expected that this lode will be intersected in a few fathoms driving. These are the facts that have caused the rise in the price of shares—a rise not equal to the increase in their value.

**THE GREAT DARREN MINE**.—At some period too remote for accurate history, the Darren Hill, along the back of the vein, was worked for copper ore. The people of those times worked this rich lode of copper by means of stone mallets, and possibly stone wedges, but there is not much evidence of the latter sort of material, although the mallets are now frequently found in the old groves, or surface excavations, in great number, and testify to the amount of trouble these old miners must have had to cut out a small amount of this copper. The copper ore is, however, rich, beautiful in appearance, and worth from 25 to 30 produce for copper, and easy for smelting. We have very little evidence for what purpose this metal was raised, possibly for spear-heads, arrows, or even wedges with which to excavate the ore; but for whatever purpose it was raised, it was evidently of the greatest value to them, and probably worth more, weight for weight, than gold is worth to us. Long after these early days in the history of mining the Romans came to the same spot to work the silver-lead. They were a people well acquainted with the uses of the metals and their chemical combinations; working the ground always skilfully, they firmly possessed themselves of the old Darren Hill, encamping themselves strongly on its crest. It is curious to observe that these different races of people established themselves immediately over the same rich ore ground, digging out the very ores of the lode in forming the trenches of their camps, and now in our own day fully 600 feet below the stronghold, the miners of this generation are busily engaged in digging out rich masses of ore at points deeper than had ever been attained in this old mine before. How much deeper future generations will be able to follow the ore is to us still a mystery, an unsolved problem, but there is no doubt, since the length of the ore-ground in this old mine is fully ½ mile, and where the vein is being worked it yields no less than 40£ worth of silver and lead to the fathom, leaving a large residuum of profit, that if we

could be allowed to see this famous old work 100 years to come, we should witness something extraordinary with reference to our notions as to deep mining. At that time they will most probably reach a depth that would be deemed incredible by the most sanguine mind of this age.

## THE TIN TRADE.

The month which has just closed has been of the greatest importance to all those interested in this article. The arrivals both of Banca and Straits have been enormous, and amount to the unprecedented figure of 38,070 slabs, equal to 1365 tons, thereby increasing our already heavy stock to 3500 tons. Such a quantity of tin has never been collected together in this port, and at present there does not appear any prospect of its being lessened; on the contrary, there are indications that the steady accumulation will continue, as there are about 1100 tons of Straits still afloat for England, and some considerable purchases of Banca have still to be brought over from Holland during the next four months. It is not to be wondered at, under these circumstances, that many holders should have lost confidence in the article, and the market shown great heaviness, coupled with a decline in price. Throughout the month the Dutch houses have been continually making offers, and pressing their surplus Banca for sale in this market. Although these heavy sales were effected, it did not give them the relief they anticipated, and at one time offers even as low as 60£ a ton, could not be placed. Holders of Straits followed the same course, and gradually giving way in their demands, finally accepted 100£. This seems to have been a rebounding point, as the market since has recovered considerably. Thus our anticipations for month past have been realised, and we can only repeat our often expressed opinion that, unless shipments from Penang and Singapore entirely cease for some time, and the consumption of foreign tin rapidly and materially increases, further disappointments will be in store to present holders.

With reference to the importation of Straits, we have every reason to believe that, stimulated by the high prices ruling for the last few years, the production has materially increased, and as it is impossible for China, India, and Japan to absorb more than a part of the production, a considerable portion must find its way to this market, especially in the absence of the usual American demand. As for an increase in our home consumption, we have to look principally at the state of our tin-plate trade, the condition of which, at the present moment, is most unfavourable, and, as long as the American war lasts, it is not likely to show much improvement. At present the tin-plate makers only supplying themselves very sparingly, as, in consequence of the want of water, their works are almost stopped, and their requirements are freely supplied by the English smelters, who, notwithstanding the comparative low price of foreign tin, have for some time past been vying with each other in securing a market for their makes, which, by the way, would seem to disprove an assertion we have seen, that the production of English tin has materially fallen off during the first eight months of this year. It has been very truly remarked that, when we look at the heavy stock, we should also look at the low prices now ruling; but we think that if a comparative statement were made, it would be found that prices are by no means lower than are warranted by the excessive supply. Till the lowness of the price begins to tell upon the article itself, by its being applied to other purposes for which, though suited, its dearness has hitherto excluded its being used; till we see these enormous stocks beginning to move off, and the tide setting the other way, we cannot say that prices are cheap, or recommend purchases as an investment. Every four months puts 32, a ton on to the price of tin, and those who have waited for the good day, which is so long in coming, would perhaps have done better to have accepted their original loss, and then go again at lower prices, on the eve of brighter times. The quantity of tin here and in Holland on August 31 was as follows, compared with the three preceding years:

|                       | 1864.        | 1863.        | 1862.        | 1861.        |
|-----------------------|--------------|--------------|--------------|--------------|
| Slabs, Tons.          | Slabs, Tons. | Slabs, Tons. | Slabs, Tons. | Slabs, Tons. |
| Stock in Holland      | 98,900—3200  | 100,089—3400 | 105,408—3270 | 94,011—2920  |
| Arrived for next sale | 17,352—560   | 21,997—748   | 27,632—850   | 20,892—650   |
| Stock here            | 3,610        | 2,554        | 1,915        | 900          |
| Total tons            | 7260         | 6702         | 6035         | 4470         |

The quantity of tin now afloat for England is 1099 tons, against 637 tons last year, and to the continent of Europe 66 tons.

**ENGLISH TIN**.—There has been no change in the official price, and the demand has been fully equal to the supply.

**STRAITS** at the commencement of the month stood at 105.10s.; but the price gradually declined to 100.7. From this there was an immediate improvement, and the present price is 105. cash, and 104.7. to 105. three months' prompt.

**BANCA**.—Owing to the pressure to sell on Dutch account, the price declined from 106.7. to 101.; but a reaction set in, and the last sale was at 103.10s.; holders now ask higher prices. In Holland the price declined to 60.4d., and has since recovered to 61.4d., and is firm therewith. The official return from Holland are as follows:

|   | 1864.         | 1863.         | 1862.         | 1861.  |
|---|---------------|---------------|---------------|--------|
| Stock on hand, July 31  | Slabs 154,420 | Slabs 129,853 | Slabs 136,043 |        |
| Delivered during August   | 55,520        | 29,764        | 30,637        |        |
| Stock on warrants, Sept. 1  | 98,900        | 100,089       | 105,406       |        |
| Arrived towards next sale   | 17,352        | 21,997        | 27,632        |        |
| Arrivals of tin in London during August were as follows:—Straits, per "Devondale," 323 slabs; do, per "Kahome," 2957; do, per "Scotland," 3434; do, per "Claymore," 4301; do, "Eliza Thornton," 1126; do, per "Sophie Georgina," 2915; Banca, from Holland, 20,960; total, 38,070 slabs. Making since Jan. 1 into London— |               |               |               |        |
| 1864.   | 1863.         | 1862.         | 1861.         |        |
| Slabs 31,447  | 27,632        | 27,632        | 27,632        |        |
| Slabs 51,826  | 29,898        | 54,770        | 50,844        |        |
| Total....   | 83,273        | 47,435        | 62,743        | 55,199 |

We estimate the present stock of tin in warehouse here at 3500 tons. The import and export of tin during the month of July, and the first seven months of this year, compared with 1862 and 1863, has been as follows:

|           | Import | Export | Foreign |
|-----------|--------|--------|---------|
| August    | 6,476  | 2,685  | 624     |
| September | 913    | 2,112  | 2,348   |
| October   | 10,994 | 10,339 | 6,867   |
| November  | 10,994 | 10,339 | 49,189  |
| December  | 10,994 | 10,339 | 46,757  |
| January   | 10,994 | 10,339 | 51,529  |

The export of tin from Singapore, from June 22 to July 22 was—Great Britain, 261 pecks; Continental Europe, nil; America, 187 pecks—price \$25. From Penang, during the same period, the export was—Great Britain, 20,088 pecks; Continental Europe, 1700 pecks; America, nil—price \$24½ dollars.

**TIN-PLATES**.—Owing to the continual drought, the market has been still further curtailed. Stocks everywhere must necessarily have been much reduced, and an improved demand would probably cause a decided advance in prices. The declared value of tin-plates exported during the month of July last, and the first seven months of this year, compared with 1862 and 1863, has been as



SEPT. 3, 1864.

## WATSON AND CUELL'S MINING CIRCULAR.

WATSON AND CUELL,  
MINING AGENTS, STOCK AND SHARE DEALERS, &c.  
1. ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Messrs. WATSON and CUELL having made arrangements for transferring their weekly Circular, which has had so large a circulation during the past ten years, to the columns of the *Mining Journal*, their special reports and remarks upon Mines and Mining, and the state of the Share Market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. Watson, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium published in 1843 Mr. Watson was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. Watson and Cuell have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share-dealing than there is at present; and, from the lengthened experience of Messrs. Watson and Cuell, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON and CUELL transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt, and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON and CUELL also inform their clients and the public, that they transact business in the public funds, railways, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON and CUELL are almost daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON and CUELL having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are enabled to supply shares in all the best mines at close market prices, free of all charges for commission.

**RESPONDENTS.**—We have so many questions asked us every week, that we may as well reply in this column to those that are of public interest, and where answers may serve to enlighten others as well as those who enquire.—1. The Cost-book System is a mutual partnership from which any shareholder, or partner, may retire by sending a letter to the purser, or secretary, relinquishing his interest in a mine, and paying up his proportion of the debt to the date of his relinquishment,—or, rather, to the end of the month in which he resigns. In some mines he can claim his proportion of assets, machinery, &c., payable in two years; in others, there is a special rule against this claim. The forfeiture of shares under the cost-book is perfectly legal, where there is a rule to that effect, and subscribed to by all the shareholders at the formation of the company. The original shareholders thus bind those to whom they transfer, the latter accepting shares on the same terms as they were held. In a company formed without the rules for forfeiture they cannot be subsequently made without the consent of every shareholder. The forfeiture of shares does not free the holders from the debts, and in many cases they are being sued by creditors, and very properly so; for it is very unfair that anyone should shirk his fair proportion of costs. The Limited Liability Act has never answered in regard to mines, and, in our humble opinion, never will. It is impossible to fix the amount of capital required to prove a mine; therefore the cost-book, under which money is provided as required, is the best system. Besides, what is limited liability? A capital of 20,000*l.* is raised (say) in 5000 shares of 4*l.* each, and a person taking 100 shares makes himself responsible for 400*l.* in periodical payments, and beyond that sum he is not liable; but if the capital is all expended before results are obtained more must be raised somehow, or the mine be stopped at a time, perhaps, when it ought to be worked vigorously. If not stopped, then fresh capital must be raised by preference shares, oft and oft repeated, until the original shares are of no value, and have little prospect of ever benefiting by the mine.—2. We never advise ladies to speculate in mines, and even gentlemen should do so with money they can lose without inconvenience, if results turn out unfavourable. If we could tell, as many correspondents ask us, how to invest money with the certainty of making large profits, there would be an end of all speculation, and we could make our own fortunes in a month. We can advise honestly, and do so, to the best of our judgment and ability, as to what we have reason to believe will rise, and no one can do more.—3. We have before explained that there are always two parties in the market—those who uphold, and those who depress—and the latter, or the "bears," are generally the strongest. If 20 horses run for the Derby, and you bet against the lot, it is quite clear you must be a winner on 19, and upon this principle—bearing shares in a number of mines makes the chances in favour of the "bear;" just the same as the principle we have always advocated in mining—that of a division of risk in half a dozen mines, securing success in the aggregate.—4. "Wheat" is a corruption of the old Cornish word *Huel*, signifying a mine, and to say "Wheat Uny Mine" is tautology, though it is generally so written. We published a "Glossary of Mining Terms" many years ago, and an excellent one may now be had at the *Mining Journal* office for 2*s.*—5. As a rule we have never advocated Foreign Mining, nor recommended shares in foreign schemes. We prefer Cornwall and Devon, where we can learn the state of the mines whenever we choose to send an agent.—6. We believe there is more than one Prince of Wales Mine; but that with which we are connected, and recommend, adjoins Drake Walls, and has fine prospects for tin: 50*t.* will buy 200 shares, and the calls are only 6*d.* per share when made. The agents are daily expecting a discovery in Watson's shaft. The mine is held under a grant from H.R.H. the Prince of Wales. In driving on the lode from shaft there is fine black and yellow ore.

**REDMOOR.**—For some months past the men have been occupied in moving the engine to as fine a copper lode as was ever seen at the depth in this district. The engine went to work on Saturday, and we should shortly look for great results.

**EAST BOTTLE HILL.**—The discovery here is said to be a fine one; and we shall be anxious to see Capt. Chas. Thomas's report.

**HALLENBEAGLE.**—We have no interest in this mine, and have never on any one occasion "beared" a single share. Several parties write us for advice; and from what we can learn as to the true state of the mine, we believe it will do well in time, but heavy outlay will be required for machinery, and it will take several months to get down to another level. We should, therefore, wait a few months before purchasing. We believe the great blow of Capt. Charles Thomas's report has been in the fact that a very large number of shares had been purchased for a rise, and that many persons had been induced to sell out their East Grenvilles to invest in Hallenbeagle.

**PRINCE OF WALES.**—The lode has been cut west of Watson's shaft just through the cross-course, which was 8*f.* feet wide; the lode is not yet out of the influence of the cross-course, but has in it occasional rich stones of black, grey, and yellow copper ore, of a most promising appearance, and evidently near a good discovery.

**GRYLLS WHEAT FLORENCE.**—The lode in the engine-shaft maintains its size and value, 30*f.* per fathom for tin, with rich stones of copper.

**WHEAT UNITY.**—The winze is now down 2 fathoms, and the black ore giving place to grey. We shall close the list for the purchase of the forfeited shares on Wednesday next, and those who have not yet signified their intention of joining us in the purchase will please to do so by that date.

**PETROLEUM.**—During the first half of 1863, 21,061 tons were imported, but the quantity imported during the corresponding period of 1864 was only 5652 tons; and in the month of June the imports were only 883 tons, against 5391 tons in the same month of last year. This extraordinary falling off is attributed to the diminution in the supplies from the United States, only 4000 tons having been received from that quarter from January to June, 1864, against 20,000 tons for the same period of last year. The difference in the value of the importations is about £65,000.

## THE CHILIAN MINING AND TRADING COMPANY (LIMITED).

Incorporated under the Companies Act, 1862, with Limited Liability.  
Capital £340,000, in 17,000 shares of £20 each.  
Deposit on application £1 per share, and on allotment £4 per share.  
Calls not to exceed £5 per share, and at intervals of not less than three months.  
**DIRECTORS.**

JOHN VANNER, Esq., Coleman-street (a Director of the City Bank).  
JAMES ALFRED HALLETT, Esq. (Messrs. Hallett, Ommanney, and Co., Bankers), Great George-street, Westminster.  
Rear-Admiral GEO. GREVILLE WELLESLEY, C.B., 10 Wilton-street, Grosvenor-THOMAS WOOD HEATON, Esq., Bolton.  
WM. MULLER, Esq., 11, Southwick-crescent, Hyde Park-square (of the firm of A. Henshaw and Co., Valparaiso).  
THOMAS GARLAND, Esq., Fairfield, Redruth, Cornwall.

(With power to add three to their number.)

**BANKERS.**—The City Bank.

The Consolidated Bank, Manchester.

The Liverpool Union Bank, Liverpool.

Messrs. Twyday, Williams, and Co., Truro.

**SOLICITORS.**—Messrs. Stuart and Massey, 5, Gray's Inn-square.

**BROKERS.**

London ..... Messrs. Webb, Geach, and Pennington, 8, Finch-lane, E.C.  
Manchester ..... Messrs. Mewburn and Barker.  
Liverpool ..... Messrs. S. H. and R. Healey.  
Leeds ..... Messrs. Potter and Co.

**SECRETARY (pro tem.).**—Henry Elford, Esq.

**OFFICES.**—53, UPPER THAMES STREET, E.C.

(Formerly the Mines Royal Office.)

ABRIDGED PROSPECTUS.

This company is formed for the purpose of purchasing and working two copper mines in Chile, called Descubridora and San Pedro, and of acquiring certain freehold premises, plant, and stores, together with an existing trade in connection therewith, at the ports of Chanaral and Pan d'Ascar.

Arrangements have been made for the purchase by the company of the Descubridora Mine for £135,000, and of the San Pedro Mine and other property for £160,000. The vendors will take along with themselves and their friends capital to the amount of one-fourth of the purchase money. The payment of the cash portion of the purchase money will be deferred until the titles shall be approved, and the properties actually vested in the company or its nominees, according to the laws of Chile. No promotion money will be paid by the company.

The following is a description of the mines:—

**DESCUBRIDORA.**

This mine is about 28 miles from the port of Pan d'Ascar, to which there is a good road. It has been worked since 1859, and is as yet wrought only about 30 fms. from the surface. The main lode varies from about 30 to 90 ft. wide; near the surface it produced red oxide of copper and green carbonate; in other parts it yields grey sulphure of great richness, which has produced about one-third metal. There is also an abundance of yellow sulphur, which yields 25 per cent. of copper. The levels have been opened on the lode about 70 fms. in length, between two cross-courses. In a recent report the agents stated that they had driven, at 50 fms. in depth below the shaft, into the lode east of the eastern cross-course. They had penetrated about 10 ft. into the lode, and found it productive of ore of good quality as had been raised from the other workings. An accident having happened to the shaft, by which operations have been partially suspended, the directors have contracted with Mr. Waters for sinking a new shaft from the surface, and extending a level therefrom under the bottom of the mine, so as to put it into complete working order, for the sum of £10,000. The time necessary for the completion of the work is estimated by the agents on the spot at ten months, dating from February last, and the work is in progress. There is no water of any consequence; a whin, working two hours daily, draws the water, which is worth for dressing the ore far more than the cost of drawing. Since the contract for the purchase was made very favourable intelligence has been received from this mine also. In cutting through some ground to expedite the sinking of the new shaft a course of rich ore has been intersected, through which the agent reports that 15 ft. have been driven. The ore is a solid mass of the best quality, being above 30 per cent. It should also be stated that, independently of that part of the lode which yields ore of the rich quality already referred to, there are lying on the surface at the mine, and included in the purchase, many thousands of tons of ore of a lower quality, which yield from 12 to 15 per cent. of copper, and only require dressing to prepare them for exportation. There is also a shaft sunk from the surface about 50 fms. east, and entirely independent of the present workings, and wrought to a depth of about 25 fms., which lays open a vast quantity of ore, at least equal in quality.

Both these mines are held under grants from the Chilean Government. There is no royalty, but a duty of £5 per cent. is payable on all copper ore exported from the country.

Not less than £30,000 has been expended on the plant and machinery at the mines, and on the various warehouses, workshops, wharves, mules, horses, carts, and general stores, which are included in the purchase.

In addition to the mines there is a general trade in the purchase of ore from other mines, and in the sale of various articles to supply the wants of the mining and general population, and there is also a distillery at the port of Chanaral for getting fresh water from the sea.

The profits for the year 1863, arising from the mines and other sources of revenue, have been at least £15,000, estimating three unsold cargoes at 18*s.* 6*d.* per unit. The ore has been sold in England, by Messrs. Frederick Heath and Co., of London and Liverpool, whose accounts may be seen at the offices of the company.

It thus appears that the net profits to the company may be estimated at upwards of 20 per cent. per annum, with a prospect of increase as the mines become further developed.

The company will be entitled to possession of the Descubridora Mine as from the 1st day of January, 1864, and of the San Pedro Mine, and of the trade and premises at the port of Chanaral as from the 1st day of April, 1864. Interest at the rate of £10 per cent. per annum on £45,000, part of the purchase money of Descubridora, and at £5 per cent. per annum on the remainder of the purchase money, will be payable to the vendors from the dates of possession, until full payment of the purchase money.

Two cargoes of ore, containing about 1000 tons, have already arrived to the account of the company, and another cargo is on the way.

Sampson Waters, Esq., the principal proprietor of the property, who has resided upwards of 20 years in Chile, and who has been actively interested in the working of the mines from their commencement, William Müller, Esq., the other proprietor, who has also resided in Chile, and Thomas Garland, Esq., of Redruth, who has long been conversant with the working of copper mines in Cornwall, have consented to join the board, and to render their best assistance in conducting its affairs.

A copy of the Memorandum and Articles of Association can be inspected at the offices of the company, and of the solicitors.

Detailed prospectuses and forms of application for shares can be obtained at the offices of the company, of the bankers and brokers to the company, and of the solicitors.

THE DEVON GREAT MARIA CONSOLIDATED MINING COMPANY (LIMITED).

Capital £50,000, divided into 2000 shares of £25 each.

Deposit, £2 10*s.* per share upon application, and £2 10*s.* per share upon allotment.

**DIRECTORS.**

CHARLES JOSEPH CARTTAR, Esq. (Coroner for Kent), Catherine House, Blackheath, S.E.

(S.W.) JOHN STONER, Esq., J.P., Finsbury House, Leitrim, and 31, Belgrave-road, Joseph TILSTON, Esq., Chepstow-place, Bayswater, W.

And two members of the board to be elected from the body of shareholders at the first general meeting.

**BANKERS.**—The Metropolitan and Provincial Bank (Limited), 75, Cornhill.

**SOLICITOR.**—Frederick W. Snell, 1, George-street, Mansion-house, E.C.

**AUDITORS.**—Sydney G. Smith, Esq., public accountant, 19, Coleman-street, E.C.

And one member to be elected from and by the body of shareholders.

**ENGINEER.**—Mr. William H. Gray, St. Austell, Cornwall.

**LOCAL MANAGER AND PURSER.**—Capt. Richards.

**SECRETARY.**—Mr. Thomas Sparro.

**OFFICES.**—Nos. 224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON.

PROSPECTUS.

This company has been formed for the purpose of working an extensive mineral property, situated immediately to the west of the celebrated Devon Great Consols, which, upon an outlay of £1024, has paid in dividends £945,152, the present value of that property being £588,800.

The geological position of the two mines is identical, and the same lodes pass through the entire length of the set; it is, therefore, reasonably expected that equally favourable results will be realised.

The total outlay required to bring the mine into a profitable state of working has been carefully investigated, and cannot exceed £10,000.

The directors have the utmost confidence in recommending this investment to their friends and the public. It has elements of success equal, perhaps superior, to any mining enterprise undertaken since the issue of shares in the Devon Great Consols Mine, adjoining.

The directors have already received applications for a considerable number of shares, and the allotment letters will be issued in order of date of application.

Applications for shares to be accompanied by a deposit of £2 10*s.* per share, and £2 10*s.* per share will have to be paid on allotment.

The directors do not bind themselves to call up more than £10 per share, and shareholders will have the option of pre-payment only to this amount, upon which interest at 6 per cent. will be paid.

The operations at the mine are being carried on with all possible dispatch, under the able superintendence of Capt. Richards, whose report is annexed.

The company will be incorporated under the Companies Act, which limits the liability of shareholders to the amount of their respective subscriptions.

Applications for the remaining shares may be made in the usual form, addressed to the secretary, directors, or bankers.

The report from Captain Joseph Richards, mineral agent for the Right Hon. Earl Fortescue, justifies the expectations of the directors. The captain's practical knowledge of the underground workings of the Devon Great Consols, and long acquaintance with the run of lodes and their connection with this property, constitute him an indisputable authority.

I beg to hand you my report of this mine. It is situated directly east of New Wheal Martha, and west of the Devon Great Consols, and is in a direct line with the main lode of these mines, so that it may be considered as occupying a first-rate position. The great lode of New Wheal Martha and the main lode of Devon Great Consols run directly through the set, so do also other lodes of very great promise. Two shafts are sunk, and levels driven. I feel assured that the prospects are such as to guarantee large returns of copper ore, and am, therefore, justified in recommending the Great Devon Maria as a very superior property. In addition to the very fine appearance of the lodes themselves, there are cross-courses and intersections, on which are often found the most splendid and valuable courses of ore. Any investors with whom my counsel has weight should promptly secure an interest, for, in my belief, the prospects of this mine are not exceeded by those of any other mine in the two counties.

JOSEPH RICHARDS, St. John's, Lamerton.

Capt. DAW, in a recent report obtained by a shareholder, states to the following effect:

At this point (the north head in the 62 fm.

## THE MINING JOURNAL.

THE ISLE OF MAN SLATE QUARRY AND GOLD MINING COMPANY (LIMITED).  
Incorporated under the Companies Act, 1862, which limits the liability of each shareholder to the amount of his shares.  
Capital £160,000, in 160,000 shares of £1 each.  
Deposit on application 2s. 6d. per share, and 2s. 6d. on allotment.  
No call to exceed 2s. 6d. per share, and an interval of not less than six months between each call.  
A less number than 100 shares will not be allotted.

Capt. R. J. MARSH, R.N., Cottage Mona, Ramsey—CHAIRMAN.  
Capt. EWEN CAMERON, Glenaba House, Peel.  
SAMUEL BROADBENT, Esq., Bibane, Onchan, near Douglas.  
JOSEPH HIGGINS, Esq., Feverill-Terrace, Peel.  
LESLIE LOCKHART, Esq., H.M. Customs, Peel.  
Capt. G. RUSSEL, 103, Albany-street, Regent's-park, London.  
JOHN MORGAN, Esq., Walshaw Lodge, Shrewsbury.  
(With power to add to their number.)

MANAGING DIRECTOR.

HENRY JOHNSON, Esq., Norfolk House, St. John's, Isle of Man.

BANKERS—The North and South Wales Bank, Liverpool.

The National Provincial Bank of England, Shrewsbury.

SOLICITOR AND SECRETARY—C. HICKS, Esq., Shrewsbury.

REGISTERED OFFICE—MARKET CHAMBERS, SHREWSBURY.

ABRIDGED PROSPECTUS.

This company has been established for the purpose of acquiring and working a most extensive and valuable mineral property, called the Glenrashen and Dalby Slates and Gold Quarries, situated in the parish of Patrick, in the southern district of the Isle of Man. The property on which the quarries are opened consists of 6906 acres, nearly the whole of which is proved to be composed of slate rock, equal in quality to any produced from the best quarries in Wales.

This immense property, which it is believed is the largest slate sett in the kingdom, and likely to become one of the most valuable, is held under a lease from the Crown for the term of 21 years, at a reduced royalty of 1-16th, of which term 19½ years are unexpired.

A large sum of money has been spent in opening out and proving the value of their property, not only at the principal quarries at Glenrashen, but also on about 20 different parts of the sett, and "these trials have proved" (as stated in the report of Capt. John Francis, of Penrhyll, North Wales, under whose direction and advice these trials were made) "that almost the whole grant of 7000 acres is composed of slate-rock, and capable of having from eight to ten different quarries opened upon it."

The machinery and plant are very valuable, consisting of water-wheels, sawing mills and cutting machines, tramways, dressing sheds, offices, smithies and carpenters' shops, machine house, and other buildings; and there are several cottages erected, with a dining room and other conveniences for the accommodation of the quarrymen.

The sett has been inspected by Capt. John Francis, as before stated, and by Mr. W. R. Williams, of Dolgelly, mining engineer, Capt. Thomas and Robert Williams, of Coddington, Denbighshire, and several other practical men, all of whom speak thereof in the highest terms.

The colour of the slate is a fine dark blue, the grain close and compact, the texture good, the lamination fine and silky, and the cleavage very good and straight.

There is also a very promising vein of green slate, which Capt. Francis recommends should be proved by driving a level into the rock, and if it turn out as well as anticipated will prove a very good green quarry.

In addition to the slate there are several veins or reefs of aniferous quartz traversing a portion of the sett, near to the Foxdale district, which it is believed will prove a valuable acquisition to the company. Portions of the quartz have been assayed by Messrs. Johnson and Sons, of London, Mr. Samuelson, of Liverpool, and other public assayers, with results varying from 1 oz. 2 dwts. 20 grs. to 5 dwts. of fine gold to the ton of quartz, from the report of Mr. W. R. Williams there is every reason to expect most profitable results.

The quarries are about three miles from the shipping port of Peel, but when the projected railway from Douglas to Peel is completed they will be within a mile and a half of the intended station at Kirkpatrick, to connect them with which a loop-line will doubtless soon be formed.

Only £30,000 of the capital remains to be allotted.

Specimens of the slate may be seen, and prospectuses and forms of application for shares obtained at the offices of Messrs. LITTLEDALE, RIDLEY, and BARDWELL, solicitors, Brownhill-buildings, Liverpool; or at the registered office, where the original reports and map of the quarries may be inspected.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Isle of Man Slate Quarry and Gold Mining Company (Limited).  
GENTLEMEN.—Having paid to your bankers the sum of £1, I hereby request that you will allot me \_\_\_\_\_ shares in the Isle of Man Slate Quarry and Gold Mining Company (Limited), and I hereby agree to accept such shares, or any smaller number that may be allotted to me; to pay the deposit, allotment, and calls thereon, and to become a member of the company; and I authorise you to place my name on the register of members for the shares which may be allotted to me.

I am, Gentlemen,

Name in full.....  
Address in full.....  
Profession or business (if any).....  
Place of business (if any).....

Dates .....

THE PANT DU AND WAENLAS MINING COMPANY (LIMITED).

Incorporated under the Companies Act of 1862, whereby the liability of each shareholder is limited to the amount of his shares.

Capital £30,000, in 6000 shares of £5 each.

Deposit on application, £1 per share; and £1 on allotment. An interval of not less than six months between each call.

DIRECTORS.

THOMAS BARNES, Esq., M.P.—The Quinta, near Chirk—CHAIRMAN.  
THOMAS PAINTER, Esq., Grove Park, Wrexham.

JOHN THOMAS DAVIES, Esq., Smethwick Hall, Smethwick, Staffordshire.

CHARLES HUGHES, Esq., Wrexham.

ISAAC SHONE, Esq., Grove Park, Wrexham.

(With power to add to their number.)

MANAGER—Mr. Thomas Williams, Coalport, near Wrexham.

BANKERS—The National Provincial Bank of England, Wrexham.

SOLICITOR AND SECRETARY—C. HICKS, Esq., Shrewsbury.

REGISTERED OFFICE.

MARKET CHAMBERS, MARKET SQUARE, SHREWSBURY.

PROSPECTUS.

This company is formed for the purpose of acquiring and working the celebrated Pant Du and Waenlas Lead Mines, in the parishes of Llanferran and Llanarmon, in the county of Denbigh, held under lease from the Marquis of Westminster, at the moderate dues of £1 per ton.

These two mines, which until recently have been held under separate leases, and worked by different proprietors, will now be united in one lease (newly granted for the term of 21 years) and carried on under one management, the effect of which will be very greatly to facilitate the development of both properties. A large tract of unworked ore-ground, containing 70 acres, has also been added to Pant Du, which will very considerably augment the value of the sett.

By reference to the map of the Government Geological Survey for this district, it will appear that these mines are situated in the carboniferous limestone, resting on the clay slate. The sett as a whole is very extensive, and estimated to contain about 500 acres, being in the heart of one of the richest lead districts in the kingdom, and lying between some of its most profitable mines—viz., the Maesysafn on the north, and the Westminster and Belgrave Mines on the south, all of which have been greatly productive, and have yielded many hundreds of thousands of pounds to their fortunate owners, Maesysafn Mine alone having yielded upwards of 15,000 tons of lead ore during the few years it was worked by its late proprietors, the Messrs. Lewis.

The western part only of Pant Du has been worked to any depth, the lowest level being about 70 fathoms from surface. The eastern portion is comparatively untouched. This mine is traversed by five strong and well-known ledges, running north-west and south-east, some of which form important junctions, all being intersected by a cross-course running nearly north-east and south-west. Four of these ledges carry their course through the Waenlas sett down to the River Alyn. From this stream was commenced, many years ago, a deep adit level to drain Waenlas, but with this important work is brought up into Pant Du (which could only be accomplished by uniting the two mines under one management) it will unwater the whole of the mines, and lay open a large tract of rich bearing ground to the operations of the present company.

The deep adit has been driven about 1000 yards from the River Alyn, and when carried a short distance further will have a very considerable back or roof in the strong bearing measures of Waenlas and Pant Du. It will, therefore, be one of the main objects of the present company to prosecute the deep level on the Waenlas and other veins (all of which have been profitably worked to a shallow depth), until the best measures are intersected both in Waenlas and Pant Du.

At least £20,000 have already been spent in driving the adit levels and doing other necessary works at Waenlas. Several shafts have been sunk from the surface on the course of the deep adit, thoroughly ventilating the works. There is one pumping engine with 18-in. cylinder, and one good 30-in. pumping and winding engine at Pant Du, together with smiths' shop, commodious offices, and other buildings, and the shafts at both mines have been well timbered, and will require but a moderate outlay to put them in thorough repair.

The turnpike-road from Denbigh to Mold passes close to the mines, and the River Alyn affords an unfailing stream of water for washing the ores.

The prospects of these mines must be considered as most encouraging, when it is known that the parallel ledges of Maesysafn and Belgrave have borne very largely down to 150 and 200 fathoms respectively, whereas the lowest workings of Waenlas and Pant Du, on the runs of ore, are not more than 70 fms., and at this comparatively shallow depth they have made large returns.

Large deposits of ore are known to be left in the old workings of Pant Du, and can be let at once on tribute, so that immediate returns may be confidently anticipated.

These mines have been inspected by Capt. Abalone Francis, of the Holway Mines, Flintshire, Walter Eddy, Esq., of Rhuddlan, Capt. Wm. Cleemann, of the Westminster Mines, Capt. John Fyson, of Glyndebourne, near Mold, and other eminent mining engineers, who unanimously agree as to their great value, and recommend that operations be carried on with vigour. The value of the mines is further confirmed by the fact that from one small spot alone in Pant Du upwards of 1000 tons of ore were raised in less than three years.

The whole of these valuable mines, including plant, buildings, and machinery, have been agreed to be purchased and transferred to the company for 79,621. 10s. in cash, and £180 fully paid-up shares.

Applications for shares, accompanied with deposit (which will be returned to the applicant in the event of no allotment), may be made to the bankers, or to the secretary, at the offices of the company, where prospectuses and forms of application for shares may be obtained, and specimens of the ore, the original reports, and plans and sections of the mines, may be inspected.

MINING OFFICES, MANCHESTER.

MESSRS. HARVEY AND CO., MINING ENGINEERS, AGENTS, AND SHAREDEALERS, CLARENCE CHAMBERS, MANCHESTER, are at all times in a position to deal in all the market Dividend and Progressive Mine shares, and also to advise on all mining matters, being practically acquainted with the business, and having a daily communication from the mining districts of Devon and Cornwall.

Messrs. Harvey and Co. publish a monthly "Mining Circular," containing a valuable summary of mining information. Forwarded gratis on application. The Circular for June contains special reports on Wheal Curtis, Nanglais, Grambler and St. Aubyn.

## SWANSEA COPPER ORE WHARVES.

TO IMPORTERS OF FOREIGN COPPER, LEAD, AND CALAMINE ORE.

Swansea, July 1, 1864.

GENTLEMEN.—We beg to inform you that, in consequence of the retirement of Messrs. W. and J. M. Williams from the copper ore trade, which they have carried on here for so many years past, we have resolved to enter upon that business, and for which purpose we have secured most eligible wharves, on the west side of the North Dock, where vessels drawing 20 ft. of water can get alongside at all times. These wharves are now covered in, the floors being made of concrete to prevent waste of the ore. A powerful steam crane has lately been erected on the premises, and is now in working order.

The business we purpose carrying on is that of COPPER ORE WHARFINGERS, combined with metal and other general agencies, which will be managed by our Mr. Thomas Elford, who for 20 years has filled an important situation under Messrs. Williams, Foster, and Co., and for the last eight years has had the entire management of their large copper smelting works, and copper and metal rolling mills, in this locality, as well as the copper ore business of Messrs. W. and J. M. Williams, which we trust will be a sufficient guarantee to our friends that any business they may entrust to our care will be conducted with the most scrupulous attention to secure the best results for their interests.

In consequence of the large number of very extensive Copper smelting works concentrated in this immediate locality, this market affords greater competition for ore than perhaps any other in the world, there being now no less than sixteen distinct Companies competing for ores sold at the public ticketing, every two or three weeks. There is also a good demand for lead and zinc, or calamine ores, several large lead and spelter works having been established in this district for some time past, and new ones are in course of erection.

Soliciting a share of your consignments of ore, regulus, and slab copper to this port, as well as a share of any general business you may have to transact in this quarter, We remain, Gentlemen, your obedient servants,

ELFORD, WILLIAMS, AND CO.

REFERENCES:—Messrs. Williams, Foster, and Co., London and Liverpool; Messrs. Williams, Harvey, and Co., London and Liverpool; the Glamorganshire Banking Company, Swansea; Messrs. Alex. Bell and Sons, No. 8, Finch-lane, London; Mons. Armand de Lacome, Madrid.

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By G. CHOWEN.

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By WILLIAM RICKARD,

Teacher of Practical Mining in the late Mining School of Cornwall, and Principal of the Engineering Academy, 36, Upper Parliament-street, Liverpool.

Froto: Heard and Son, London: Longman and Co.; the office of the MINING JOURNAL, 26, Fleet-street; of the author, and of all booksellers.

## NOTICES TO CORRESPONDENTS.

\* \* \* Much inconvenience has arisen in consequence of several of the numbers during the past year being out of print, we recommend that the journal should be regularly issued on receipt; it then forms an accumulating useful work of reference.

USE OF KAOLIN IN IRONFOUNDRIES.—Can any of your readers inform me whether kaolin is used instead of sand in foundries, and, if so, what precautions are necessary?—MOULDER.

COAL CUTTING BY MACHINERY.—The correspondence in the Journal of late has only just met my eye, and I fully agree with what Mr. Ridley has written. I distinctly deny what the West Ardsley Company say, that I have abandoned the trunk principle in my last patent.—J. GRAFTON JONES: Blaina Ironworks.

WEATHER PREDICTIONS.—In Mr. George Shepherd's last letter to you on the subject of the weather, he alludes to the abuse he has recently met with on account of the failure of his predictions. Although this is not to be commended at any time, it does not appear to me very surprising that Mr. Shepherd should have received sharp censures from persons who may have suffered by their reliance on the too confident predictions of the author of the "Climate of England." The study of the phenomena of Nature, and the application of the results obtained to the benefit of mankind, are worthy of all praise: but the true philosopher states his opinions with diffidence. Mr. Shepherd has lost ground by his most positive predictions that 1864 would be a year of great disaster: a wet spring; a wet summer; so that his readers were very uncomfortable, and, as it has turned out, very needlessly so. With singular boldness, he stated that he would have the first information of any change. His attempts to show that he was right in many of his more ordinary failures are extremely weak. In short, like many other wise men, he is baffled by our English climate. Will he permit me to say to him for the future—"Do not be too positive."—J. P.: Yorkshire.

HALLENBURG.—Allow me to correct an error in the City Article of last week's Journal: in referring to this mine it is stated that it was known to the writer when worked about 20 years since. The mine to which the allusion is made is now working under the name of Boscowen Mine. I believe no one living knows when the present Hallenbeagle worked last; it must have been wrought as part of Wheal Rose more than 70 years since, at the time copper was not so much sought after as at the present day. The mine adjoins Wheal Rose, and the same courses of ore going east are the lodes which Hallenbeagle are now raising their ores from.—TRUTH: Liskeard, Aug. 31.

THE CROISER VALLEY AND PORT MADOC SLATE COMPANY.—I am a shareholder in this company, and should feel greatly obliged if the secretary would give the shareholders, through the medium of the Journal, some idea of the position in which we stand.

Several weeks since it was stated somewhat conspicuously in a contemporary that the directors of the company, accompanied by a few shareholders, were to visit the works during the following week. I presume the directors thought it advisable to keep to themselves the result of

[SEPT. 3, 1864.]

making large profits. Other companies, with various objects in view, are talked of—the most important one being the gigantic company, with a capital of £1 million, who have already concluded a contract for the purchase of the extensive coal and iron works now carried on by Boileau and Vaughan, at Middlebrough and other places. As is well known, the situation of these works is unrivalled, as the Cleveland iron ore can be procured and sent into these works at a cheaper rate than any other work in the district, or, perhaps, in this country, and the company have also abundant supplies of coal, coke, &c., within a reasonable distance; indeed, they produce most of the materials required at their own works, and of course very large profits have been realized. The prospects of the new company are, therefore, all that could be wished.

"*Elin*," the intelligent correspondent of the *Newcastle Daily Chronicle*, says:—

The probability of some of the large Tees-side ironworks being formed into a limited liability company has long been foreseen. For several months it has been the talk in commercial circles that Messrs. Boileau and Vaughan's works would be the first to undergo this transformation. Negotiations, it is understood, have been going on for some time past, with the view of getting their large concerns converted into a company, and it appears that the sale has been effected. Messrs. Chadwick, Adamson, McKenna, and Co., the well-known financial agents of Manchester and London, have completed the purchase. A deposit of 20,000/- has been paid, and a further sum of £300,000. has to be paid in January, when the works are to be handed over to the new company. The entire establishment is to be sold, including both the ironworks and coal mines at Middlebrough, Eston, Witton Park, and Auckland. The total sum to be paid for the whole is £500,000. The capital of the new company is to be two and a half millions sterling, made up in 25,000 shares, of 10/- each. Messrs. Boileau and Vaughan are to take 8000 shares, and to pay up 50/- per share. They further agree that no dividend shall be paid upon these 8000 shares until an average dividend of 10 per cent. per annum for five years has been paid to all the other shareholders. The directors are to be chiefly Manchester men, and among them will be Mr. J. Cheetham, formerly M.P. for South Lancashire, Mr. B. Whitworth, Mr. Pochin, Mr. Holden, and Mr. George Wood, all well-known business men in Lancashire. Three-fourths of the capital required is already taken, and the promoters entertain no doubt but that they will be able to place the balance with ease and promptitude. Mr. Boileau has no children, and Mr. Vaughan has only one son. It has been well known for some time that both gentlemen were anxious to be freed from the responsibility necessarily incident to so vast a concern. There are said to be upwards of 9000 persons employed in connection with their different works. What a change in a few years! I can recollect when Mr. Vaughan was manager for Messrs. Losh, Wilson, and Bell, at Walker, and Mr. Boileau was a clerk in a quay-side office. This was the case not more than twenty years ago. Now, they are the owners of the largest ironworks in the North of England. Fortune has certainly smiled on both of them, in a monetary point of view, at least.

The limited liability companies that have been started in this district have hitherto been successful. How far they will continue to be so remains to be seen. Much will depend upon their management, and the parties that are at the head of them. If there are men who take a direct personal interest in managing them they may, and probably will, continue to be successful; if not, not. The Consett Tinworks, which were formerly in the possession of Messrs. J. B. Richardson and Co., have made a profit of 120 per cent. upon the first year's work. The company pays Mr. Richardson 5 per cent. on the capital sunk in plant, &c., for the rent of the premises. The working capital of the company is £10,000/-, and the profits for the last year amounted to no less than £12,000/-.

The Consett Iron Company have a nominal capital of £300,000/-, and the profits for the first half-year are said to have reached no less a sum than £40,000/-.

For the shares of the company formed out of Messrs. J. Abbott and Co.'s works already a premium of 25/- is said to have been offered.

The Tyne Ship-Building Company (late Messrs. J. Roger-

son and Co.) have got a capital business to start with. The company has on the stocks,

and is preparing to put down, eleven steamers, large and small. One steamer has been launched since the company came into possession of the works. Mr. James Spence, the "S." of the *Times*, and once the owner of the Bedlington Ironworks, is the chairman of the directors of this company. Mr. Spence is a first-class man of business, and under his direction the new ship-Building Company will no doubt prosper. The Tyne Steam-Shipping Company, I hear, is doing very well, and likely to do better when the new arrangements the directors are making get into full working order. The Tyne General Ferry Company also prospers.

Altogether, the application of the limited liability principle in this district may be considered so far to be successful. But it may carry too far. As an illustration of the character of some of the wild schemes that are talked of in this direction, I may mention that there was a project seriously mooted for purchasing all the Northumbrian and all the Welsh steam coal collieries, and forming them all into one huge limited liability company!

The old and well-known colliery and ironworks at Wylam are announced to be sold or let. The property belongs, and has done for many years, to the Blackett family. Messrs. Bell Brothers have rented the blast-furnaces for some time, and when their lease is out the entire concern is to be put up for sale. Wylam coals have a first-class reputation, and with a certain class of manufacturers in London and elsewhere they are preferred to any other Tyneside coal. The colliery is an old one, but there is still a great deal of coal left unworked. I have heard a limited liability company talked about for taking the entire concern. There is an abundance of fire-clay in the mine.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

SEPT. 1.—The demand for manufactured iron continues steadily to improve, and a good many ironmasters have orders on hand for four months to come, a state of things which has not previously existed for some months past. The market is much firmer, and buyers complain of the excess of orders being delayed. This, however, may be somewhat remedied, as the decreasing temperature enables the puddlers to do more work. Pig-iron is selling more freely. The prevailing rate for good all-mine pigs and hematites is 37. 10s., best brands being 37. 12s. 6d.

The strike of miners in the Dudley district has this week entered on a new phase. It was gradually dwindling away, and bade fair to be over in a few weeks. Those, however, interested in maintaining it took counsel together, formed large processions early in the mornings, with bands, whistles, &c., and paraded the district, exercising a very intimidating influence, so that many who had gone to work left, and say they dare not continue. In this way, and by the termination of notices given a fortnight ago, the ranks of the men on strike have been swelled greatly, whilst their demonstrations are exercising no small influence on those at work. There are now, probably, not less than four or five thousand men out. The police have been augmented, but so far the acts of violence have been isolated. At the Dudley Petty Sessions, on Monday, one man was sentenced to three months, and another to six weeks imprisonment for threatening and ill-treating men who were going to work. In a published list of subscriptions in aid of those on strike, the names of men who have refused to subscribe are given, evidently with a view to their becoming "marked."

On Saturday a crowd of the men met Mr. F. Smith, the Earl of Dudley's chief agent, driving in his carriage, and asked him to speak to them respecting the strike, and he did so at some length. The great point of Mr. Smith's address consisted of a refutation of the leading argument adduced by the colliers, which is that the wages before the reduction were only the same as were paid when coal was cheaper than at present, and they referred to the year 1848 in proof, stating that in that year wages were 5s. per day, and thick coal as low as 8s. per ton, whilst that quality of coal is now 11s. Mr. Smith, however, reminded them that whilst at the commencement of 1848 wages were 5s. per day, at the end of the year they fell to 2s. 6d., and that when 5s. was paid for wages coal was 10s., but that it fell to 8s., when wages were at the lowest point in the course of that year. He added that from the fact that the mines had been so extensively worked in the first instance, leaving only ribs and pillars for the present workings, the cost was greatly increased in proportion to the yield, whilst the greater proportion of small coal diminished the actual value of the whole quantity raised, even though the prices were as high, or higher. The men gave three cheers for Mr. Smith, but as yet have not acted on the sensible observations he made. The result of the strike is that vast quantities of coal are coming from other districts, and the demand is as active at the thin coal mines of South Staffordshire that several of the ironmasters are raising their prices 1s. per ton. The men on strike are only receiving very small amounts weekly, and in the area extends the claimants are increased, whilst the contributors diminish. Under these circumstances, nothing but a decided advance in the price of iron is likely to restore wages to the old figures.

An important decision was given in the Birmingham Bankruptcy Court, on Monday, in the case of E. Barker and Son, metal dealers. At the time of their failure they had contracted for, but not received, large quantities of copper, iron, &c., at prices far above those now current, and the question was whether the estate was liable to the sellers for the depreciation in value. Messrs. H. and J. Walduck claimed, as creditors, for nearly 10,000/-, on account of iron they had bought on the Glasgow market for the bankrupts, and for which they responsible, and which, as the assignees refused to take it, was re-sold at a loss of 9476/-.

The registrar, Mr. Hill, said the claim for Messrs. Walduck's debt being recognised rested on the 17th section of the Bankruptcy Act of 1849, which provides that if any bankrupt has contracted before the filing of his petition for adjudication a liability to pay money on a contingency which has not happened, and the demand in respect whereof has not been ascertained before the filing of the petition, when the demand has been ascertained he shall be admitted to prove for such demand; but it had been held by the superior courts that under this section no proof could be made except for an ascertained sum, not for unliquidated damages, and also that the liability to be proved must depend on a single contingency only, and not on a plurality or series of contingencies. He held that the present claim fulfilled these conditions, as immediately on each purchase the claimants became liable to pay to the seller the whole amount of the purchase-money thereof, which was an ascertained sum, and depending on the single contingency that the bankrupts did not pay the sellers that amount. He, therefore, admitted the proof of the debt. The solicitor to the assignees said his Honour's decision would be appealed against.

#### REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

SEPT. 1.—The Coal Trade appears to be in a state of far greater activity than has been experienced for a very considerable period. The demand for the London market is exceedingly active, and a very satisfactory amount of business is doing in connection with the local trade. The enquiry for all descriptions of manufactured iron is all that could be desired, and from present appearances there is no probability of the demand diminishing. The Low Moor Works, at Bowring, and the other districts belonging to the same company, having been formed into a joint-stock concern, nearly the whole of the share capital, £2,500,000/-, has been subscribed, and the principal men in the company are the same gentlemen who have the management of the Staveley Coal and Iron Works, the Atlas Armour-Plate Works, and other large concerns in the iron and coal trades. In these counties the joint-stock system appears to be entirely superseding individual enterprise.

The "lock-out" at Bowring has terminated in a manner which may fairly be regarded as a triumph of the masters. The full complement of men required has been obtained, and already 20 puddling furnaces are in full work night and day, whilst the necessary number of hands for the remaining four have been secured in Belgium, and these will enter upon their engagements in the course of a few days. As soon as the facility with which hands were obtained became known to the men, many applications were made by those locked-out, who expressed their willingness to sign the declaration. As the whole of the places for which men were required had, however, been filled up, they did not succeed in obtaining employment. At Low Moor the masters have not been quite so successful in procuring men; they have, nevertheless, a dozen puddling furnaces in full work; and, as the unoccupied places are being gradually filled up, they have no fear that they will soon resume their usual activity, without the aid of Unionists.

A case of some importance to both colliery proprietors and colliers was heard before the Barnsley magistrates yesterday, inasmuch as it proves that a collier cannot infringe upon him to justice. The defendants were Jabez Jackson and Thomas Steele. The defense was that the information was informal, being laid by the colliery manager instead of by Earl Fitzwilliam's steward, and that the rules themselves did not demand a month's notice, though there might have been a verbal agreement to that effect. The decision was given against the colliers. A colliery accident, happily not attended with loss of life, occurred on Tuesday morning at High Park Colliery, near Eastwood, Nottingham. The fire-damp, which had just been discovered in the pit, became ignited, and although every exertion was made to rescue the men several were severely burned. The coroner's jury was given against the colliers. A colliery accident, happily not attended with loss of life, occurred on Tuesday morning at High Park Colliery, near Eastwood, Nottingham. The fire-damp, which had just been discovered in the pit, became ignited, and although every exertion was made to rescue the men several were severely burned. The coroner's jury was given against the colliers.

The Cleveland district still continues to attract the attention of both speculators and capitalists, and although it is admitted that the moment the increased production is fully compensated for by the continually rising demand, it is generally considered that Messrs. Boileau and Vaughan have shown much wisdom and foresight by concluding the sale of their works, if they can realise the £500,000, clear, to reimburse them for their outlay, and the discoveries which have been made under their auspices. There are at present 89 blast-furnaces in working order in the district; and, assuming that the increase in the number continues at the rate it has recently, it is not unreasonable to anticipate that by the end of 1865 there will be at least 200 furnaces in blast—there being just now what may almost be termed a Cleveland ironworking mania—if the usual reaction do not follow, so much the better. Eight additional blast-furnaces have been got into working order within the past two months, and nearly thirty more are in process of erection. As scarcely one-half of the pig-iron which is now produced in Cleveland is converted into merchant iron in the district, it is difficult to conceive what it is that justifies this rapid increase in the number of furnaces. Even at present the Cleveland prices are much lower than those of Glasgow, and certainly the doubling of the number of furnaces in blast is not the method usually resorted to for sustaining them. It is true a large trade is usually done with the Continent, but at present the export trade is very languid, and it is only on the probability of the reduction of the French duty on pig-iron in October increasing the demand in France that the manufacturers build their hopes. It is mentioned that the buying-up process has been carried on to such an extent that even the makers of furnaces not yet in blast have been bespoken to the end of 1865, but it should be considered that the establishment of the new Exchange has afforded additional facilities for forcing up prices, and that when there is a ready means of speculating the bona fide character of quotations (that is, the correspondence of quotations with the prices justified by the real demand) is not so readily ascertained.

Your correspondent, Mr. Ennor, will, no doubt, be interested to learn that as J. Elliott, a miner at the Ravenhead Collieries, St. Helen's, was following his usual employment setting Cannel, he struck off from a large mass a remarkable fine piece about 9 in. square. He states that he turned round to make a remark about the piece of coal to a comrade who was working near him, and at the same time struck the lamp with his pick, when, to his surprise, it entered freely into the coal as if it were hollow. Thinking this very strange, he states that he took the Cannel with him where he ascended out of the pit, and on examining it he found firmly embedded in a hole just large enough for it to move in, but not sufficiently large to turn round, a live toad, which seemed quite lively and healthy. The hole, which is about 4 in. deep, is exceedingly narrow at the mouth, so much so that it would be impossible to get the toad out. Crowds of people have flocked round Elliott's house to see this strange sight, and a gentleman of St. Helen's has offered him ten guineas for it.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

SEPT. 1.—It is satisfactory to report that the dullness which characterised the Iron Trade a few weeks ago is being gradually replaced by more activity, so far as demand is concerned. The market shows a decided change in favour of sellers, and, as stated last week, some of the first-class makers are able to command a slight rise in price. For tin-plated there is also a better enquiry, consequent in a great measure on the decrease in the make through the scarcity of water. The heavy rain which has fallen at intervals since Monday night will enable all the works that were obliged to stop from want of water to commence operations again, and hundreds of hands will thus be able to resume their daily avocations. In both the house and steam Coal Trades there is a large business doing, and quotations are well maintained. The negotiations for the purchase of the Nant-y-glo and Beaumont Works have not yet been brought to a termination, but there is no doubt entertained that both establishments will shortly pass from the hands of Messrs. J. and C. Bailey. Reports have been circulated that the directors of the London and North-Western Railway Company are anxious to purchase Nant-y-glo, but there appears to be no foundation for this rumour. Mr. Crawshay Bailey, M.P., who has always had the credit of not being mixed up in any way with the truck system, seems, after all, to have a sort of indirect interest in a shop. At the last Tredegar County Court, Mr. Williams, the late proprietor of the Beaumont shop, brought an action against two workmen for the recovery of sums of money for goods supplied. It appeared from the evidence that the proprietor of the shop acted as cashier to Mr. Bailey, and in many instances a few shillings per month were deducted from the wages of the men to pay the shop account; 300/- per annum was paid to Mr. Bailey as the "rent" for the shop. The defendants had agreed that a certain sum per month should be deducted from their wages, but Mr. Simons, who appeared for them, contended that this brought the cases within the Truck Act, and that the "deductions" made were illegal. He, therefore, held that the plaintiff was out of Court, the debts having been contracted more than six years ago. Mr. C. Bailey, M.P., and Mr. Phillip Williams, had been summoned to attend and give evidence, but they were unable to be present, and the cases were in consequence adjourned for month, in order to secure the attendance of these gentlemen.

The half-yearly meetings of the local railway companies are being held one after the other, and in nearly every instance there is an increase of dividends. On Thursday the ordinary meeting of the Fembroke and Tenby Railway was held, Mr. W. Owen in the chair. The Penarth Harbour, Dock, and Railway Company half-yearly meeting was held on Tuesday, and a dividend at the rate of 5 per cent. was declared on the preference shares, and at the rate of 3/4 per cent. on the ordinary capital. The whole undertaking will shortly be in the hands of the Taff Vale, at a rental of 4½ per cent. per annum on the ordinary capital. The Swansea Vale meeting was held on Tuesday, when a satisfactory report was presented and adopted. On Wednesday the Merthyr, Tredegar, and Aberavonney meeting was held, when a dividend at the rate of 5 per cent. per annum, less income tax, was declared for the half-year.

Referring to the Aberaman Ironworks, a correspondent of the *Times* says—"In the advertisement headed 'Aberaman Ironworks' is a blinder so extraordinary that it might be regarded as a slip of the pen if it had not been constantly repeated. Thus, it is announced that 'the ironstone is the blackband, a carbonaceous ore, which is comparatively rare, and yields from 60 to 70 per cent. of iron, and also the ordinary argillaceous ironstone.' Now, blackband is impure carbonate of protoxide of iron, and the absolute pure carbonate contains only 48·2 per cent. of iron. The richest ore in the world is the magnetic oxide, and that, even if chemically pure—a state in which it never occurs in nature—would only contain 72·4 per cent. of iron. The blunder in question could not escape detection by persons acquainted with the smelting of iron, though it might mislead the general public."

**MINING IN CARMARTHENSHIRE AND PEMBROKESHIRE.**—The miners which have appeared from time to time in the *Mining Journal*, in reference to the mining sets of Carmarthenshire and Pembrokeshire, have attracted a great deal of attention in the district, and there is no doubt entertained by old miners in the locality that there is a vast field for mining enterprise in the two counties. Want of railway communication is the greatest drawback at present, but this will not continue long, as capitalists are beginning to see that South Wales, and more especially the westernmost counties, are destined to meet with a prosperous future, once the unequalled natural advantages of Milford are turned into practical account. It must be admitted that the landowners, as a body, do not give that encouragement to mining adventure which it is unquestionably their interest to do; time, however, will, no doubt, remove this difficulty, and convince the proprietors of the soil that they are pursuing a wrong policy. The following letter has appeared in the *Pembroke Telegraph*, in reference to the strata of the Preseli range of mountains, which divide Cardiganshire and Pembrokeshire:—"Having noticed in last week's *Telegraph* a copy of a letter, addressed to the *Mining Journal*, on 'Mining in Pembrokeshire,' stating that the Preseli range of mountains are auriferous, and the neighbourhood of Newport pregnant with metallic ore, it affords me great pleasure in making known to you, and those interested in geology, that no doubt any longer exists upon that point. A short time ago the labourers at Trewern, near this town, in digging a wheel-pit for some machinery connected with the farm, threw up a quantity of soft gravelly soil (a portion of which I enclose for your inspection), full of small yellow granulations, which, on being shown to an old Australian miner, was pronounced to be mica, the precursor of the coveted ore. After several days' digging the water prevented further operations until proper machinery was obtained."

**SWANSEA.**—Trade during the past week has been unusually brisk, as the large number of imports will show. Mr. Barnes, engineer, I am told, is making active preparation for the commencement of the new line from Swansea to the Mumbles Head, at which latter point a jetty is to be constructed, so that all descriptions of vessels can load and unload at any hour in the day. This will be a great acquisition, and is regarded by the Harbour Trust with anything but an unprejudiced eye. The Derwent Valley line is being rapidly pushed forward, and it is rumoured that it will be opened by Jan. 1. I fear, however, that this rumour is not correct. The leasing of land near the half-tide basin by Mr. Dickson, the well-known contractor, is significant of progress, and two more coal-drops will soon be erected on the site, to the benefit of the port. Contracts have been entered into for the construction of large works on the Burrows, for the celebrated firm of Ford and Shackleford, for the construction of railway carriages, &c. The works will cover nine acres of land, and will give employment to some 400 of the hands. The new works for the manufacture of zinc white have been opened during the past fortnight, near where Messrs. Ford and Shackleford's works are to be. The works are conducted by a company (limited), under the supervision of M. Bozney, the patentee and manager. A large business is likely to be done. Mr. Munro is the hatter, and I believe, one of the principals in the concern. The prospectus is issued by the Neath Hotel Company (limited), but I have not yet had an opportunity of looking over a copy. The probabilities of success are considerable, as hotel accommodation in South Wales is proverbially deficient. The Swansea Hotel Company is quiet for the present, pending negotiations as to the purchase of some old property erected on the site required. This once settled, the object for which the company was formed will be carried out without delay.

The following are the imports of minerals during the past week:—Fortuna, from Seville, 50 tons of copper ore, for Richardson and Co.; Theophilus Felix, from Cagliari, 156 tons of lead ore, for Richardson and Co.; William Edwards, from Aveiro, 120 tons of copper ore, for Richardson and Co.; Wasp, from Cagliari, 250 tons of lead ore, for Richardson and Co.; Wild Wave, from Coquimbo, 314 tons of bar copper, and 380 tons of copper ore, for Richardson and Co.; Nazzano, from Adra, 150 tons of zinc ore, for Monroe and Co.; Pedro Ferreira, from Cuba, 631 tons of copper ore, for the Cobrero Copper Company; Claudine, from Caldera, 400 tons of copper ore and 268 tons of silver ore, for Bush and Son; Eliza, from Krageroe, 8 tons of copper ore and 200 tons of nickel ore, for Vivian and Sons.

**FIRE AND BURGLARY DETECTOR.**—Messrs. Watson and Horwood are at present manufacturing a very neat alarm for giving notice of burglary or fire; the alarm consists of a small bell which is struck by the action of an electro-magnet.

The electricity is supplied by a Sime's battery of suitable power, and the wire is laid so that contact may be made or broken by the opening or shutting of the door or window it is desired to protect. It is considered that the apparatus would be applicable in

#### FOREIGN MINING AND METALLURGY.

The industry of the district coming under the notice of the Namur Chamber of Commerce being principally associated with the production of raw materials, has reflected less than other industries the perturbation which characterised the season of 1863. Nevertheless, in the Namur district, as elsewhere, the obstruction of certain outlets has impeded the disposal of various products. This state of affairs has led industrials to apply themselves vigorously to the development of other markets. After having made some observations full of interest on the position of the workmen of the province, the report of the various collieries increased to the extent of upwards of 200 tons last year from 55. 7d. to 5s. 4d. per ton. This diminution is the result of the necessary competition against the coal of the Hainaut on transport conditions, which, as the report observes, become more and more unusual. The Namur Chamber, in referring to these inequalities of conditions, the Chamber recognises the fact that the importation into France of the coal and coke of the district increased last year 91,000 tons. A table annexed to the report gives the total production of coal in the province since 1836, from which it appears that in that year the extraction amounted to about 20,000 tons, in which the coal mining industry of the province of Namur finds itself the most important in the Hainaut on transport conditions, which, as the report observes, becomes more and more unusual. The Namur Chamber, in referring to these inequalities of conditions, the Chamber

is available for export and inland delivery. A large trade is now done with the Continent, and though the export trade is at present languid, yet when the reduction in the French duty on pig-iron takes place in October, it is thought the outflow in that direction will be more considerable than it has yet been.—*Stockton and Hartlepool Mercury.*

## IMPROVEMENT IN PUMPS.

Although a considerable period has elapsed since the invention under consideration was first brought before the notice of the readers of the *Mining Journal*, and comparatively little has hitherto been done towards securing its adoption, the utility and economy of the pump is recognised as completely as ever, and there is the gratifying fact in its favour that in every case in which it has been applied it has proved highly successful. As a very efficient pump, constructed according to Mr. Bastier's patent, is at present in full work in the neighbourhood of London, it may not be out of place again to describe its mechanism, the time which has elapsed—nearly seven years—since the first pump was put to work being sufficient to efface all recollection of it even from the memory of those who fully appreciated its merits at the time of its introduction. The inventor has had two very serious difficulties to contend with; in the first place, the objections entertained with regard to the old-fashioned chain-pump led many to decline the thought of applying a machine with even a similar name; and, secondly, the inventor's inability to use our language prevented him from vindicating the claims of his invention. These difficulties have now been, to a great extent, overcome, and it is only reasonable to anticipate that the remaining half of the term of Mr. Bastier's patent will more than compensate him for the obstacles and delays encountered during the first.

The improvement which Mr. Bastier has introduced may be summarised in a few words—he converts the floats into a series of tight fitting pistons during their passage through a certain portion of the tube, which is slightly contracted for the purpose. According to the depth of the water, the pump acts by pressure or by suction, so that upon its being put to work the water invariably flows freely as soon as any single disc has traversed the distance from the surface of the water to the top of the pump. It acts as a force-pump when the level of the water to be pumped exceeds 40 in., for then as, by the well-known law of hydrostatics, the water will rise in the interior of the tube to the same level as on the exterior, the disc entering the tube will force the water already in the tube before it. But should the water in which the pump-tube is immersed be less than a yard in depth, the suction principle comes into play; in this case the disc entering the tube after moving upward about 4 in. (for we should say that the bottom of the tube is trumpet-shaped, to facilitate the flow of the water), reaches the contracted portion of the tube, and draws the water after it ready to be forced onward by the following disc. It will be seen that in this compressed space the discs becoming packed by the slight compression of the India-rubber, play the part of a piston, the suction and forcing going on as long as motion is given to the pulley over which the endless chain passes, such pulley being fixed on an axle made to rotate either by a driving-band and steam-power, or by any other motor. Now, assuming that water is to be pumped from 300 yards, the tube would be provided with (say) three contracted portions, and as the discs traversing each of these contracted portions are at the same time acting as forcing-pistons to the water above them, and as suction-pistons to that below them, it is obvious that the power required to raise the column is reduced to the minimum. It will be readily understood that the entire pump, from the bottom of the mine to the outlet at surface, is always full of water; but this is not all—so perfect is the action, that the charge of water is not exhausted for more than an hour after the pump has been stopped. The consequence of the arrangement is, that the power of the pump may be increased to almost any extent, since the greater the speed of the pulley the greater is the number of discs which pass through the tube, and the greater the quantity of water raised.

The pump which is now continually at work at Messrs. Berger's, at Bromley-by-Bow, has a tube 4½ inches in diameter, and pumps water from the depth of 177 yards. The power applied to keep the pump in motion is that of 4½ horses, and it has been found, by careful measurement, that the average quantity of water raised is 195 gallons per minute, whilst as a proof of the non-liability of the pump to choke, it may be stated that pieces of wood, &c., 2½ inches square, and some inches in length, have been brought up with the water without in any way interfering with the action of the pump. The pulley over which the chain passes is never made less than a metre (39 inches) in diameter, and is made of cast-iron, and of a strength equal to double the weight it is required to support. The periphery of this pulley is so constructed that the grip is perfect, and slipping is rendered impossible. Cages are, as we have already stated, formed at intervals around the periphery, to receive the discs and protect them against injury from contact with the pulley. In the grooves which form the remaining portion of the periphery of the pulley, arrangements are made for supporting each link of the chain, consequently the maximum power is utilised; on each side of the groove there are projections between which the links on edge are received, the extremities of these projections serving to support the links lying on the flat; but to make sure doubly sure, Mr. Bastier provides a second point d'appui, in the shape of a pin placed in the centre of the groove, and which takes into the centre space of the link which lies on its flat. By this means friction and slipping are at once avoided, no matter what may be the speed at which the pulley is revolving, whilst the pull on the chain ensures each link falling in its proper position in the groove. On a pulley of a metre diameter there are fourteen links always in effective use, so that it will readily be seen that the power is immense. The links being each made of the best iron, and carefully tested up to thrice the weight it is to support, and the diameter, length, and thickness of all being similar, the best results are ensured. Comparing the first cost of the pump with that of those in ordinary use, it is found that the expense of manufacturing it and setting it to work is 50 per cent. less than that of common pumps when the depth is 50 fms., and 75 per cent. when the water has to be pumped from great depths. There is, moreover, increased safety secured to the miners, since if a tube somewhat larger than that likely to be required is applied, a trifling increase in the speed of the engine will suffice to throw up double the quantity of water. The inventor guarantees that the pump shall give from 90 to 92 per cent. of the effective force, and judging from the results which are actually obtained in practice, he appears to be fully justified in doing so; this great efficiency arises, probably, from the fact that the descending portion of the chain precisely balances the rising portion, so that it is to the lifting of the water alone that the power is applied. We trust, ere long, to have to report that the pump is in general use.

**NEW SHAKING-TABLE.**—Mr. Charles A. Stetefeldt, of New York City has secured a patent for a new invention for separating ores, which consists of a shaking-table, provided with two or more rotating beds arranged one above the other, in such a manner that by their action the pulverised ore, running down over them, is separated automatically by the action of the machine, according to the different specific gravities of the constituents, and that the separation can be continued to any desired degree simply by increasing the number of rotating beds.

**IDAHO QUARTZ CRUSHER.**—The quartz crusher to which this title has been given, invented by Mr. A. Hitchcock, of New York, is a modification of the ordinary Chilian mill and Cochrane's Crusher, described in the *Mining Journal* about 10 years since. Mr. Hitchcock's mill has three wheels on axles, at angles of 120°, which are actuated by rotation of a weighted hopper, pressing upon their peripheries, and which contains the quartz to be crushed. The hopper may be rotated by horse-power or otherwise.

**THE NEW METAL.**—Magnesium was discovered by Sir Humphry Davy in 1807, but remained little else than a chemical curiosity until 1862-63, when Mr. Edward Sonstadt patented a series of processes, whereby it may be produced in any quantity. Magnesium is a metal white as silver, and very light; its specific gravity being 1·74, or about one-fifth the weight of copper. In the form of wire it may now be purchased at 3d. per foot at all the principal metallurgists, opticians, and photographic material dealers. If the end of a piece of wire be held in the flame of gas or a candle, it at once takes fire, and burns gaily with a dazzling white light, by which a photograph may be taken with a perfection equal to sunshine. The wire supplies an excellent specimen of the metal, and burning a few inches is a brilliant and interesting experiment.

**MOTIVE POWER.**—The object of the invention of Mr. James Price, of Circus-street, Marylebone, appears to be to convert a rotary into a reciprocating motion, as for pumping, by providing teeth on the pump rods, and corresponding teeth on portions of the peripheries of spur wheels, suitably arranged.

**THE MOTIVE POWER ENGINE—STEAM SUPERSEDED.**—We have examined, during the past week, an engine, stated to be of 5-horse power, constructed under the patent of Mr. Mallard, and which, it is said, will work at 80 per cent. less cast, and occupy 50 per cent. less space than a steam-engine. The space occupied is about 10 feet, by 4 feet and 8 feet high, and it is anticipated that (when the machine is in motion) 5-horse power will be developed, although the steam supplied is only that which would, under ordinary circumstances, be required for a 1-horse engine. It is supposed that the increased power is obtained from levers connected with the plungers, and that the patentee anticipates that inasmuch as he has two plungers, the one will be raised whilst the other descends. Although we are ourselves utterly unable to see anything in the machine that would lead to the hope of obtaining more power than that resulting from the steam consumed, were it employed in an ordinary engine, we trust that Mr. Mallard will be enabled practically to demonstrate the advantage of his invention for a machine which can be worked at one-fifth the cost at present incurred, and occupy but one-half the space would be, without doubt, a desideratum. As Mr.

Mallard proposes (in his perfected machine) to compress the air which is to develop the power by the power developed, the problem of obtaining perpetual motion will of course be solved—when the perfected machine is got to work continuously.

## NEW INVENTIONS.

**PROVISIONAL PROTECTION** for six months has been granted for the following:—

E. B. WILSON, London.—Improvements in furnaces. July 23.

F. E. B. BRAUNTON, Dover.—Improvements in machinery for driving drifts or galleries through stone or rock. July 31.

T. HUGHES, London.—An improved composition to be used for coating surfaces, and insulating metal from metal. June 16.

C. DENIS, France.—Improvements in heating or coking stoves. June 25.

J. LIVESY, London.—Improvements in the permanent way of railways and carriages for the same. July 28.

T. NEWBY, Suffolk.—Improvements in self-closing doors and gates. Aug. 2.

W. WOODFIELD, Cambridge-terrace, London.—Improvements in apparatus for communicating between passengers and guards and engine-drivers on railway trains. Aug. 2.

F. J. BRAMWELL, London.—Improvements in the manufacture of nuts for screw bolts, and in such like articles. Aug. 4.

J. FARRELL, Dublin.—Improvements in railway carriages, and in breaks for the same. Aug. 5.

C. W. LANCASTER, London.—Improvements in projectiles. Aug. 6.

M. PAYNE, Northampton.—An improved construction of traction-engine. Aug. 9.

R. CORDNER, Stanhope.—An improved railway sleeper. Aug. 13.

LETTERS PATENT have been issued for the following:—

F. C. P. HOFFMANN, London.—Improvements in machines for crushing hard substances, for washing ores and minerals, and for separating earth and earthy matter from solid substances. February 16.

H. A. JOWETT, Sawley.—Improvements in securing or fixing rails for the construction of the permanent way of railways. February 17.

J. TRAVIS, Lancaster.—An improved method of preventing and curing corrosion and preserving the metal in steam boilers, steam regenerators, and fuel economisers. Feb. 18.

J. RANSOME, Ipswich.—Improvements in the manufacture of artificial stone. Feb. 27.

F. BUSH, Boston, America.—Improvements in rail cutting machines and mechanism for grinding the moveable cutters and dies used therein. April 26.

W. ROWAN, Belfast.—Improvements in steam-engines. Feb. 23.

A. WALL, London.—An improved combination, or improved combinations, of combustible materials to be used as fuel. Feb. 24.

H. BARWELL, London.—An improved steam generator, specially adapted for horticultural purposes, but also useful for other purposes. Feb. 29.

H. COCHRANE, York.—Improvements in moulds for casting metal. March 5. [21.

E. BORROWS, Lancashire.—Improvements in pumps for lifting or moving liquids. Mar.

LIST OF SPECIFICATIONS published during the week:—

Communicating in railway trains, 8d.; slide valves, 8d.; clearing iron for locomotives, 4d. L. DE FONTAINEMOREAU.

**MANUFACTURE OF PEAT AND PEAT CHARCOAL.**—An invention has been patented by Mr. J. J. Hays, of Hitchin, for improvements in the manufacture of peat and peat charcoal. The apparatus employed in the first stage consists of a grinding-mill formed of discs of cast-iron, or other suitable material, fixed vertically in a frame, and having the surfaces, which are in contact, or nearly in contact, rubbed or grooved either radially or spirally in conjunction with other mechanism. He describes an improved form of kiln for drying. The third part of the invention consists of retorts for carbonising peat, and in the condensation and collection of the tar and other products derived from the distillation of peat.

**PRODUCING HYDROCARBON OILS.**—In operating upon gas tar, coal tar, asphalt, and other bituminous substances, in order to obtain their various products, Earl Dundonald proposes to combine the substance to be operated upon with sulphuric or other suitable oxidising body, as sesquioxide of iron; this combination he effects in a retort, still, or other convenient apparatus. He then volatilises the products by the use of superheated steam, the distilled vapours being condensed in the ordinary manner. By thus combining the raw material with an oxidising agent, and distilling it in combination with the same, he obtains a considerably increased portion of oils, and of greater purity. He also obviates the necessity of operating upon the distillate obtained from the first distillation. The quantity of sulphuric acid, sesquioxide of iron, or other oxidising body employed, varies from 2 to 10 per cent., being regulated entirely by the character of the raw materials operated upon, and the nature of the products required.

**MINERAL TRAFFIC ON RAILWAYS.**—Annexed is a statement showing the quantities of coal, coke, and minerals carried over the twelve leading railway systems of Great Britain in 1863, as compared with 1862:—

| System.                            | 1863.      | 1862.     |
|------------------------------------|------------|-----------|
| 1.—Caledonian .....                | 3,882,992  | 3,524,345 |
| 2.—Great Eastern .....             | 684,583    | 616,805   |
| 3.—Great Northern .....            | 1,572,472  | 1,283,836 |
| 4.—Great Western .....             | 4,860,289  | 5,171,166 |
| 5.—Lancashire and Yorkshire .....  | 2,918,204  | 2,666,400 |
| 6.—London, Brighton, &c. ....      | 330,080    | 290,209   |
| 7.—London and North Western .....  | 6,118,611  | 5,338,390 |
| 8.—London and South Western .....  | 376,218    | 246,057   |
| 9.—Manchester, Sheffield, &c. .... | 577,700    | 521,378   |
| 10.—Midland .....                  | 4,225,790  | 3,804,153 |
| 11.—North Eastern .....            | 11,547,184 | 7,289,144 |
| 12.—South Eastern .....            | 166,013    | 158,725   |

The North Eastern thus stands at the head of the list in respect to mineral traffic. The immense progress which this fine system has made in this regard is attributable, to some extent, to amalgamation arrangements, a good deal more mileage being now worked under the general designation of the North Eastern. At the same time, there can be no doubt that the mineral traffic of British railways has a steady tendency to increase.

**RAILWAY CALLS.**—The amount falling due in September is 128,756/-—making the total called during 1864, 10,125,474/-.

**THE ASSOCIATION FOR THE PREVENTION OF STEAM-BOILER EXPLOSIONS.**—The monthly meeting of this association was held at the offices, Manchester, on Tuesday (Mr. W. Fairbairn in the chair), when Mr. L. E. Fletcher, the chief engineer, presented his report, of which the following is an abstract:—I have to report for the present month the explosion of four boilers employed for steam purposes, by which six persons have been killed and six others injured. Not one of these boilers was under the inspection of this association, while two of them have been personally examined since their explosion. Another explosion, resulting in the death of three men, as well as injury to several others, happened at a gas-work to the tar boiler of a naphtha still. It is not customary in stills of this character to supply them with any safety valve or pressure gauge, as considerable difficulty is met with in applying them, so that their safety depends entirely on the freedom of the outlet for the gases and liquids. Since, however, this is apt to become clogged, and in this case became hermetically sealed, it would appear that this is an arrangement that at least deserves reconsideration. One explosion occurred at an engine builder's, and by it two persons were killed and five others injured. The boiler was new, not having worked more than nine months. It was of vertical tubular construction, with a self-contained internal furnace, the flames passing upwards through the tubes and the water surrounding them. The cause of the explosion was investigated by two engineers of considerable repute, and they attributed the explosion to excessive pressure, a pressure considerably above that at which the boiler was usually worked. They had not, however, discovered the cause of that excessive pressure, but thought it might possibly have been due to overloading of the safety-valve. It is extremely unsatisfactory not to arrive at the precise cause of every explosion, but there appears to be more difficulty in doing so in the present instance than is usually found to be the case. Although the precise cause of the failure of this boiler can scarcely be said to have been as fully ascertained as it is desirable it should be in every case of explosion, yet the owners have very wisely determined to replace it with one of different construction, and are now subjecting the whole of their boilers to the hydraulic test, which they intend to repeat periodically, and thus put their boilers upon a safer footing than they had been before the explosion.

**FIRE-STONE.**—An article of this character has lately been discovered in Emeraldas county. It has the weight of fire-brick, and by an experiment tried in a furnace of an iron foundry, it is proved to be as good, or even superior, to the best fire-brick. In colour this stone is very white, with delicately tinted purple veins.—*San Francisco Mining and Scientific Press.*

**FOR SALE, an excellent CORNISH PUMPING ENGINE,** mad at the Ferran Foundry, 48 in. cylinder, works to 70 horse power, stroke 8 ft. 6 in. shaft, 9 ft. in cylinder, with 13 ton balance beam, and TWO TUBULAR BOILERS 30 ft. long, 5 ft. 6 in. diameter. Also, about 140 fms. of 11 in. pump, with 10 in. working barrel, &c., and 135 fms. pump rods. The engine, &c., may be seen at the Old End Lead Mine, Crich, near Whatstandwell station, on the Buxton Railway.—Apply to WILLIAM MILNES, Esq., Stubbins Edge Hall, near Chesterfield; or to WALKER COX, Esq., Derby.

**FOR SALE, a PATENT MINING PORTABLE ENGINE,** by Medwin and Hall, engineers, 92, Blackfriar's-road, London, No. 31, 18 inch cylinder, 2 feet 6 in. stroke, double tube, boiler in good repair. Apply to Messrs. PHILLIPS and LEWIS, merchants, Carmarthen.

**SPIEGELEISEN.—SPECULAR PIG IRON of the VERY BEST QUALITY, £7 10s. PUDDLED STEEL in square and flat bars, £11 10s. f.o.b. at Hull.** Samples on application. JULIUS GOLDSTEIN, Birmingham.

**IRON PYRITES.—PERSONS REQUIRING IRON PYRITES** from Spain, with FIFTY PER CENT. SULPHUR, are requested to apply to B. AEBELLE, Fonda del Comercio, Santander, Spain.

**M. R. SYMONS, SURVEYOR, &c., TRURO,** having engaged a lithographic artist, is PREPARED TO EXECUTE EVERY DESCRIPTION OF MAPS, PLANS, CHARTS, PROSPECTUSES OF MINES, &c., in the best style of art, at the shortest notice, and at moderate prices.

**M. R. ROBERT SYMONS, MINE SURVEYOR, &c., TRURO,** possessing an intimate knowledge of Cornish mines, is well qualified to ADVISE CAPITALISTS as to their BUYING or SELLING SHARES. For a fee of two guineas Mr. R. Symons will ascertain and accurately report the state of any mine within 20 miles of Truro; if beyond that distance a fee of three guineas will be charged.

## Royal School of Mines.

## ROYAL SCHOOL OF MINES.

Director—Sir RODRICK IMPEY MURCHISON, K.C.B., F.R.S., &c.

During the Session 1864-5, which will commence on the 3d of October, the following COURSES OF LECTURES AND PRACTICAL DEMONSTRATIONS will be given:—

|                          |  |
|--------------------------|--|
| 1.—CHEMISTRY .....       | By A. W. HORNEMANN, LL.D., F.R.S., &c. |
| 2.—METALLURGY .....      | By JOHN PERCY, M.A., F.R.S.            |
| 3.—NATURAL HISTORY ..... | By T. H. HUXLEY, F.R.S.                |
| 4.—MINERALOGY .....      | By WARINGTON W. SMITH, M.A., F.R.S.    |
| 5.—MINING .....          | By ROBERT WILLIS, M.A., F.R.S.         |
| 6.—GEOLOGY .....         | By A. C. RAMSEY, F.R.S.                |

| SEPT. 3, 1864.

**M**R. C. SCHIELE (of the firm of C. Schiele and Co.) OFFERS HIS SERVICES as an ENGINEER, INVENTOR and CONSTRUCTOR of TURBINES, FANS, VENTILATORS for MINES, PUMPING MACHINERY, &c., to LAY OUT, ADVISE ON, and ASSIST IN, any of the MECHANICAL OPERATIONS, PUMPING ARRANGEMENTS, MODES of TRANSMITTING POWER THROUGH INTRICATE WORKINGS, &c., as required in the various manipulations of mining.—Please address MR. SCHIELE, 26, Milton-street, Stockport-road, Manchester.

**PALFREEMAN AND CLARK, PRACTICAL ENGINEERS,** are PREPARED to MAKE DRAWINGS and UNDERTAKE the EXECUTION of LOCOMOTIVES and STATIONARY ENGINES for IRONWORKS, MINES, &c., and MACHINERY in GENERAL. They will also superintend the execution of orders in this country for abroad.—4, Corporation-street, Manchester.

**NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS,** 16, Oozell Street North, Birmingham.

STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—

REFINED METALLIC NICKEL. | OXIDE OF COBALT. [WIRE, &c.]  
REFINED METALLIC BISMUTH. | GERMAN SILVER—IN INGOTS, SHEET  
NICKEL AND COBALT ORES PURCHASED.

**GOLDENHILL, COBALT, NICKEL, COLOUR, BORAX, AND CHEMICAL WORKS,** NEAR STOKE-UPON-TRENT, STAFFORDSHIRE.

JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER.

Reference.—Professor Miller, King's College, London.

**T**O ENGINEERS, CONTRACTORS, AND OTHERS.—PERSONS DESIROUS of PURCHASING THE PATENT RIGHT or ROYALTY for JEWELL'S PATENT FLUE AND TANK BOILER are REQUESTED to FORWARD OFFERS to his agent, Mr. W. T. HAWKE, Branch Patent Office, 39, Budge-street, Bristol, where plans and copy of specification may be obtained.

#### IMPORTANT TO MINING.

**M**ESSRS. SMYTH AND WASLEY'S PATENT PREPARATOR, FOR SPALLING AND SEPARATING THE ORE FROM THE STONE.

Agent:—Mr. Hawke, Patent and Mining Agent, 39, Budge-street, Bristol, where model may be seen, and particulars obtained.

**HORIZONTAL ENGINES FOR SALE**, at very low prices:—One 13 in. cylinder, 24 in. stroke; one 12 in. cylinder, 36 in. stroke; and two 14 in. cylinders 24 in. stroke. All ready for delivery, and may be had with or without fly-wheels.—Apply to Messrs. E. Page and Co., Laurence Pountney-place, Laurence Pountney-hill, Cannon-street E.C.

**RAILWAY CARRIAGE COMPANY (LIMITED), ESTABLISHED 1847.**

OLDbury WORKS, NEAR BIRMINGHAM. MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, and EVERY DESCRIPTION OF IRONWORK.

Passenger carriages and wagons built, either for cash or for payment over a period of years.

**RAILWAY WAGONS FOR HIRE.** CHIEF OFFICES,—OLDBURY WORKS, NEAR BIRMINGHAM. LONDON OFFICES,—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

**T**HE BIRMINGHAM WAGON COMPANY (LIMITED) is PREPARED to SUPPLY RAILWAY WAGONS of EVERY DESCRIPTION, capable of carrying 6, 8, or 10 tons, at annual rentals, or for purchase on deferred payments, on advantageous terms.

EDMUND FOWLER, Sec.

OFFICES,—3, NEWHALL STREET, BIRMINGHAM.

**T**HE BEVERLEY IRON AND WAGON COMPANY (LIMITED).

MANUFACTURERS of RAILWAY WAGONS, WROUGHT and CAST IRON CARRIAGE and WAGON WHEELS, LURRIES, and ROAD WHEELS and AXLES of EVERY DESCRIPTION.

PATENT WHEEL MANUFACTORY, BEVERLEY IRONWORKS, BEVERLEY, YORKSHIRE.

**T**HE KILCROHANE AND GURTNAKILLA SLATE AND SLAB COMPANY (LIMITED).

Capital £40,000, in 10,000 shares of £4 each.

Deposit, 10s. per share on application, and 10s. per share on allotment.

Registered under the Companies Act.

DIRECTORS:

Capt. William B. BEATTY, Argyle-road, Kensington, W.

CAPEL COAPE, Esq., Pryor's Bank, Fulham.

GEORGE BEDFORD, Esq., Loughborough-park, Brixton.

WILLIAM JOHNS, Esq., Junior Carlton Club, Regent-street.

Major-General MASON, South Parade, Traalgar-square, S.W.

ALFRED MELHIADE, Esq., Princes-square, Kensington.

JAMES TURRELL, Esq., Ramsgate.

BANKERS:—Messrs. Olding, Osborne, and Co., 29, Clement's-lane, Lombard-street.

BROKERS:—Messrs. Ardis and Co., 75, Old Broad-street.

AUDITORS.—To be elected by the shareholders.

SECRETARY (PRO TERR.)—J. Nightingale, Esq.

TEMPORARY OFFICES,—150, LEADENHALL STREET, LONDON.

ABRIDGED PROSPECTUS.

This company is formed for the purpose of purchasing the leases of and extending the works of a very valuable slate and slab quarry, now in full operation and making returns.

Full prospectuses, with reports, also forms of application for shares, can be obtained from the brokers or secretary, and samples of the slates and slabs can be seen at the office of the company.

**C**APT. C. WILLIAMS, TYN-Y-WERN, TALIESIN, via SHREWSBURY, has had upwards of 20 years' practical experience in mining, during which time he had the entire management of several English and Welsh mines. Residing in the centre of the CARDIGANSHIRE MINING DISTRICT, and in close proximity to those of MERIONETHSHIRE and MONTGOMERYSHIRE, he OFFERS HIS SERVICES to SURVEY and REPORT UPON ANY MINE.

**B**RITISH AND FOREIGN INVESTMENT.—MR. THOMAS SPARGO, STOCK, SHARE, AND MINING BROKER, 224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C., TRANSMITS EVERY DESCRIPTION of BUSINESS in the PURCHASE and SALE of SHARES in BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, and ALL OTHER DESCRIPTIONS of BRITISH and FOREIGN STOCK.

MR. SPARGO has for sale shares in English mines paying from 10 to 30 per cent., upon the present price, in bi-monthly and quarterly dividends, as also a number of shares in good progressive mines, some of which he with confidence specially recommends to the public as sound investments.

Mr. SPARGO gives every information as to position and prospects of all mining undertakings, upon application, either personally or by letter, and is enabled, through his long experience, aided by his monthly visits to Cornwall, Devon, and Wales, to obtain the most reliable information as to the numerous mines in those districts. He will, at all times give the best advice as to investment in mines, and, if necessary, inspect them himself; as in all cases he wishes to be guided by the intrinsic value of the property. Upon the receipt of 5s. he will furnish a selected list of dividend and progressive companies.

Mr. SPARGO has published the following works, viz.:—

Statistics and Observations upon the Mines of Cornwall, 1859, price 2s. 6d.

Ditto ditto 1860, price 2s. 6d.

Ditto ditto 1862, price 2s.

Ditto ditto 1864, price 5s.

Physical, Geological, and Parish Map of Cornwall. Scale, three miles to an inch. Printed in three colours, showing distinctly the mining districts, the height of the hills, &c. Price 10s. 6d., on cloth and rollers.

Geological maps of the various mining districts, showing the boundary line of each mine, with the lodes, cross-courses, and even courses by which it is traversed. Price 2s. 6d. each.

A Model, or Relief, map of Cornwall (6 ft. 6 in. by 5 ft.), presenting the names of every town and village, as also every characteristic point of the county. Price £5 5s.

Dividends received, calls paid, and all orders promptly negotiated.

Commission 1½ per cent.

Mr. SPARGO has 20 years' experience of mining, ten of which he was engaged in practical mining, and ten years he has transacted business in mining shares and stock, at 224 and 225, Gresham House, Old Broad-street, City, E.C.

Bankers:—Bank of London, and the Metropolitan and Provincial Bank (Limited).

**C**OLORADO MINING AGENCY OF GIBSON AND DELANY.

OFFICES.—DENVER AND CENTRAL CITIES, COLORADO; and 4 and 6, FINE STREET, NEW YORK CITY.

INFORMATION GIVEN on all COLORADO MINING PROPERTY, EXAMINED, and REPORTED UPON.

FULLY DEVELOPED MINES FOR SALE.

MINING PROPERTY BOUGHT, SOLD, or TAKEN ON COMMISSION.

Stockholders and other parties having interests in Colorado mining property can at all times obtain confidential and reliable information to latest dates, as to the value of their investments.

**M**R. BRENTON SYMONS, MINING ENGINEER AND SURVEYOR, can PROCURE MINING SETTS in ANY DISTRICT in CORNWALL or DEVON.—18, Hatton-garden, E.C.

**M**R. BRENTON SYMONS INSPECTS and REPORTS on ANY MINERAL PROPERTY. In all cases where procurable a plan will accompany his report.—18, Hatton-garden, E.C.

**M**R. BRENTON SYMONS, M.E., begs to inform his clients that he will be unable to be in the Minera district until the 30th inst.

Truro, August 16, 1864.

**PRACTICAL MECHANICS' JOURNAL** for September (Part 198, price 1s.), with a large plate engraving of Fischer, Jennings, and Co.'s Mineral Tank Locomotive, and thirty wood engravings. Original Articles on Tunnelling, Dutch Field Artillery, Ringed Structure in Ordnance, Report of the Commissioners of Patents, 1861. Recent Patents.—Young and Kirk, Motive Power Engines; Hamilton, Stopping Bottles; Young, Preserving Vegetable and Animal Matters; Irvine, Richardson, and Lundy; Oils; Johnson, Polishing Glass; Johnson, Propelling and Steering Vessels; Lucius, Colours; MacAdam, Stoppers and Bungs. Law Reports, Reviews of New Books, Mechanics' Library, Correspondence, Scientific Societies, Monthly Notes, Marine Memoranda, Prices Current, List of Patents, Registered Designs, &c. London: Longmans, Paternoster-row; Editor's Office (Offices for Patents), 47, Lincoln's Inn-fields.

#### In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the DULTA TIN MINING COMPANY (LIMITED).—By an order made by his Honour the Vice-Warden of the Stannaries in the above matter, dated the 31st day of August, on the petition of John Martyn, of St. Dennis, within the said Stannaries, a creditor and also a contributory of the said company, it was ordered that the said DULTA TIN MINING COMPANY (LIMITED) should be WOUND-UP by this Court, under the provisions of the Companies Act, 1862.

HODGE, HOCKIN, AND MARRACK, of Truro, Cornwall (Solicitors for the Petitioner).

Dated Truro, August 31, 1864.

#### In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the NORTH HALLENBEAGLE TIN AND COPPER MINING COMPANY (LIMITED).—By an order made by his Honour the Vice-Warden of the Stannaries in the above matter, dated the 27th day of August inst., on the petition of Richard Michell, of the parish of Gwenap, in the county of Cornwall, a creditor of the said company, it was ordered that the voluntary WINDING-UP of the said NORTH HALLENBEAGLE TIN AND COPPER MINING COMPANY should be continued, but subject to the supervision of the said Court, and that John Bingley, of Leeds, in the county of York, engineer, should be continued the liquidator of the said company, subject to such security as the Registrar of the said Court might require, and that the books, papers, and documents of the said company should be transmitted to the office of the said Court, at such times and in such mode as the said Registrar might think fit, for the purpose of verifying and confirming the list of creditors and contributors, and for any other necessary purpose.

And it was further ordered that all persons entitled to inspect the same should be at liberty to do so, whether they were in the custody of the said Registrar or of the said liquidator, and that the said official liquidator should be at liberty to employ Mr. John Blackburn, of Leeds, as his solicitor, and that no steps should be taken to recover by legal proceedings any arrears of calls now due, or claimed to be due, until the list of contributors and creditors should have been confirmed by the said Court, and in no case without the sanction of the said Court, and that the said liquidator should proceed to a sale of the machinery, materials, plant, and other effects of the mine belonging to the said company, by public auction, such sale to be on the terms and conditions to be settled by the said Registrar, with liberty to accept any private contract, with the sanction of the said Court.

HODGE, HOCKIN, AND MARRACK, of Truro, Cornwall (Solicitors for the Petitioner).

Dated Truro, August 31, 1864.

#### In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the WENDRON UNITED MINING COMPANY.—TO BE SOLD, under the direction of the Registrar of the said Court, BY PUBLIC AUCTION, on Monday, the 12th day of September inst., at Eleven o'clock in the forenoon, at WENDRON UNITED MINES, in the parish of Wendron, within the said Stannaries, either together or in lots, the MINE SETTS or GRANTS of the said company, and the undemanded MINING MACHINERY and MATERIALS, viz.:—

ONE 24 in. cylinder ROTARY ENGINE, with 8 tons BOILER.

15 small pulleys, with stand complete.

1 horse whim, and about 60 fms. of 8 in. rope, shaft tackle.

1 whit.

160, 140, and 60 fms. of horse whim chain and tackle.

40 fms. 8 in. and 30 6 in. launders.

11 strips, 25 ft. long.

36 lime trunks.

24 flat frames.

8 hand frames, with sheds and coffers.

6 buddies.

1 tin hutch.

5 kievers.

2 stamp tubs.

9 barrows.

Several 4 in. air pipes.

2 patent air machines.

A large quantity of Norway and American timber, & several wood shads.

140 fms. 54 chain.

1 large 4 ft. pulley.

75 fms. wire-rope.

Shaft box and stand complete, with 20 fms. 5 in. wood rod.

Quantity of smiths' and mine tools, pick hammers, shovels, oil and tallow, and account-house furniture, and a variety of other materials and effects in general use in mines.

Further particulars may be had on application to Mr. BELLINGHAM, the officer in possession; at the office of the Registrar of the said Court, in Truro; or to

Messrs. HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Registrar's Office, Truro, September 1, 1864.

#### In Chancery.

**I**N RE THE BRITISH ZINC ROLLING COMPANY (LIMITED), ZINC ROLLING MILLS, with the NEWLY ERECTED PLANT and MACHINERY, situate in MACCLESFIELD STREET, CITY ROAD.

**M**ESSRS. FULLER and HORSEY have been appointed by the Master of the Rolls to SELL, BY AUCTION, on Wednesday, 7th September, 1864, at One o'clock precisely, at the Guildhall Coffee-house, Gresham-street, London, in One Lot, the LEASEHOLD INTEREST in the PREMISES, and the whole of the newly fitted PLANT and MACHINERY, by Galloway, of Manchester, capable of rolling 25 tons of zinc per week.

**NICHOLLS, WILLIAMS, AND CO., ENGINEERS,**  
BEDFORD IRONWORKS, TAVISTOCK.  
MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the manufacture of our BOILERS, which have been tested by most of the leading engineers. PUMP WORK CASTINGS of EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS of ANY SIZE. CHAINS made of the best iron, and warranted. RAILWAY WORK of EVERY DESCRIPTION.  
ALL ORDERS FOR ABROAD RECEIVE their BEST ATTENTION. Nicholls, Williams, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required. Messrs. NICHOLLS, WILLIAMS, and Co. have always a LARGE STOCK of SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

**ELLIS LEVER,**  
PATENTEE AND MANUFACTURER OF  
FLEXIBLE TUBING FOR MINES, AND COLLIERY  
BRATTICE CLOTH.  
WEST GORTON WORKS, MANCHESTER.

**TAVISTOCK IRONWORKS AND STEEL ORDNANCE  
COMPANY (LIMITED).**

(LATE GILL AND CO.)  
ENGINEERS, IRON AND BRASS FOUNDRERS,

MANUFACTURERS OF  
STEAM ENGINES, BOILERS, AND MACHINERY OF ALL KINDS.  
CHAINS, SHOVELS, EDGE TOOLS, AND EVERY DESCRIPTION OF CAST  
AND HAMMERED IRON FOR MINING, MANUFACTURING,  
RAILWAY, OR AGRICULTURAL PURPOSES.

Machinery sent to all parts of the world.

Foreign mining companies supplied on liberal terms.

**CLAYTON, SHUTTLEWORTH, AND CO.,  
ENGINEERS,**  
MANUFACTURERS OF PORTABLE and FIXED STEAM ENGINES, MANUFACTORY FOR PUMPING, HOISTING, GRINDING, SAWING, &c., ENGINES FOR STEAM CULTIVATION, SELF MOVING ENGINES for COMMON ROADS for AGRICULTURAL PURPOSES GENERALLY.

STAMP END WORKS, LINCOLN; and

78, LOMBARD STREET, LONDON.

ALSO AT

LOWENGASSE NO. 44, LANDSTRASSE, VIENNA, and GEGENUBER DEM  
BAHNHOF, PESTH.

Descriptive, illustrated, and priced catalogues free per post.

SPECIAL DRAWINGS WHEN REQUIRED.

THE BEST STEAM THRASHING MACHINERY MADE.

Swan Rope Works.

**GARNOCK, BIBBY, AND CO.,**  
CHAPEL STREET, LIVERPOOL.  
MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL WIRE  
ROPE FOR MINING, RAILWAY, and SHIPPING PURPOSES.  
MANILLA BORE of SUPERIOR QUALITY, FIFTY PER CENT. STRONGER,  
and THIRTY PER CENT. CHEAPER than Russian hemp rope.  
WIRE ROPE of FIRST QUALITY WIRE, and the HIGHEST STANDARD of  
STRENGTH.

Exhibition Medal, 1862.

**WEIGHING MACHINERY**  
CONSISTING OF  
PLATFORM WEIGHING MACHINES and HIND'S PATENT RAIL and ROAD  
WEIGHBRIDGES, overhead TRAVELLING WEIGHING CRANES and CRABS,  
RAILWAY WEIGHING TURNABLES, &c.

**CRAVES**

OF THE WALL, PILLAR, PORTABLE, or TRAVELLING KINDS; and CRABS and  
WINCHES for STEAM or HAND POWER, &c. Also, TURNTABLES, WATER  
COLUMNS, TANKS, and PUMPING MACHINERY, and GENERAL RAILWAY  
PLANT, manufactured by

RICHARD KITCHIN, ENGINEER AND IRONFOUNDER,  
SCOTLAND BANK IRONWORKS, WARWICK.

Prize Medal Awarded Great Exhibition, 1851, and  
International Exhibition, 1862.

**PATENT SAFETY FUZE WORKS, TUCKINGMILL,  
CORNWALL.**—We beg respectfully to inform the public that since the decease  
of the late Mr. THOMAS DAVEY this firm has consisted of JOHN SOLOMON BICKFORD,  
GEORGE SMITH, FRANCIS PYRON, SIMON DAVEY, and WILLIAM BICKFORD SMITH. It is  
requested that all letters may be addressed, and all cheques and drafts made payable to  
BICKFORD, SMITH, AND CO.

**SAFETY FUSE.**—Messrs. WILLIAM BRUNTON AND CO.,  
PENHALLICK, POOL, near CAMBORNE, CORNWALL, and BRYMBY, near  
WREXHAM, MANUFACTURERS OF FUSE, of every size and length, as exhibited  
in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the  
Arctic Expedition, and every part of the globe.

For the convenience of their customers and others in the North, W. BROWNSON and Co.  
have recently erected a branch manufactory at Brymbo, near Wrexham, where, as at  
Cornwall, they are at all times PREPARED to EXECUTE UNLIMITED ORDERS  
for SUPPLYING FUSE upon warrant that it will prove equal to, if not better than  
any to be procured elsewhere.

**THE UNITY PATENT SAFETY FUSE COMPANY**  
SCORRIER, CORNWALL, SOLICIT ORDERS for the DIFFERENT KINDS  
of SAFETY FUSE which they are PREPARED to SUPPLY, of SUPERIOR  
QUALITY, and of ANY LENGTH.

**EDWARD'S PATENT MINERAL ORE AND COAL  
WASHING MACHINE.**—This is by far the MOST ECONOMICAL, as well  
as the MOST PERFECT MACHINE MADE. Each machine is capable of washing 25  
to 50 tons per diem, according to quality.—Full particulars, testimonials, &c., may be  
seen from E. EDWARDS, Esq., C.E., 1, York-buildings, Adelphi, where a working  
model may be seen.

**COAL CUTTING MACHINERY.**—  
The WEST ARDSLEY COMPANY having, by recently patented improvements,  
perfected their coal cutting machinery, worked by compressed air, are NOW READY  
TO MAKE CONTRACTS for the CONSTRUCTION and USE of THEIR MACHINES.

The results of twelve months' experience in the working of these machines, by the  
West Ardsley Company, have proved most satisfactory, their use being found to  
CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN  
the LABOUR, and also to MODIFY the SANITARY CONDITION of the MINE.  
All communications to be made to Messrs. FIRTH, DOMESTHORPE, and BOWER, No. 8,  
Bramall-street, Leeds.

**NOTICE.**—The WEST ARDSLEY COMPANY, having reason  
to believe that their patents are being infringed upon, hereby give notice that  
they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may  
MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any  
such INFRINGEMENT is MADE.

TO IRON and COAL MASTERS, MINING AND QUARRY COMPANIES, &c.  
IMPROVED BLACK VARNISH,  
FOR PREVENTING IRON FROM RUST, AND WOOD FROM DECAY.

**A BRILLIANT JET BLACK, SUPERIOR to PAINT in  
APPEARANCE, dries less time, contains preservative qualities of the best  
description, and is economical in its use; one gallon, at £s., is equal to 14 lbs. of paint,  
which costs 4s. For COLLIER HEAD GEARING, RAILWAY WAGONS, BOILERS, CASTINGS,  
CANAL BOATS, &c., it is especially adapted. In cans containing 10, 15, and 20 cwt.s.  
each, in quantities of 1 ton and upwards, price £11 per ton.**

**TURPENTINE SUBSTITUTE.**

Glover and Co. have now on hand a really splendid painting sample of spirits of turpentine substitute, a pure crystal, not more volatile than the genuine American turpentine, and quite inoffensive to smell. Price, 2s. per gallon, in 30-gallon casks.

**PETROLEUM.**

This oil gives a pure, white, soft, and brilliant light, easily regulated, and portable.  
For works or public buildings, where gas is not desirable, the brilliancy and economy  
of the article are unequalled.

**WASTE NO OIL.**

STRONG IRON OIL CISTERNS.  
Not liable to leak, and which economise space in the stores. From 600 gallons, 48 dia-  
meter by 8 ft. in height, price £10 10s., down to 10 gallons, 15 diameter by 2 ft. in height,  
price 1s., WITH EVERY VARIETY of SIZE and PRICE BETWEEN.

**STRONG IRON BUCKETS:**

2½ galls. ... 4s. 6d. | 3 galls. ... 5s. 6d. | 4 gall. .... 6s. 0d.  
WAGON GREASE.

**GLOVER AND CO., No. 40, MANESTY LANE, LIVERPOOL.**  
THE BANKING, MINING, AND JOINT-STOCK COMPANIES REVIEW,  
A JOURNAL OF COMMERCE, TRADE AND MANUFACTURE,  
SCIENCE AND THE ARTS.

Published every Wednesday. Subscription, £1 1s. annually. Price 6d. stamped.

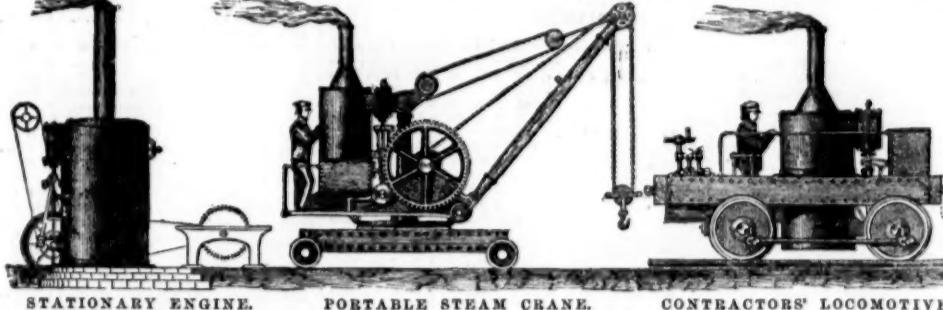
**RAILWAYS AND MINES**

By Capitalists who seek safe and profitable investments, free from risk, should act only  
upon the soundest information. The market prices for the day are for the most part go-  
verned by the immediate supply and demand, and the operations of speculators, without re-  
ference to the *bene* *ad e* merits of the property. Railways depend upon the traffic, ex-  
pense, and capital accounts, the probabilities of alliance or competition with neighbouring  
companies, the creation of new shares, the state of the money market as affecting the re-  
turns of debentures, and other considerations founded on data to which those only can have  
access who give special attention to the subject. Mines afford a wider range for profit than  
any other public securities. The best are free from debt, have large reserves, and pay di-  
vidends bi-monthly varying from £15 to £25 percent, per annum. Instances frequently  
occur of young mines rising in value 400 or 500 percent. But this class of security,  
more than any other, should be purchased only upon the most reliable information. The  
underwriters devote special attention to railways and mines, afford every information to  
capitalists, and effect purchases and sales upon the best possible terms. Thirty years'  
experience in mining pursuits justifies us in offering our advice to the uninitiated in se-  
lecting mines for investment; we will, therefore, forward, upon receipt of Post-office  
order for £s., the names of six dividend and six progressive companies that will, in our  
opinion, well repay capitalists for money employed.

**MURRAY, TREDNICK AND CO., STOCK and SHAREBROKERS, and DEALERS  
IN BRITISH MINING SHARES, 78, LOMBARD STREET, E.C.**

Prize Medal, International Exhibition, 1862.

### CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.



STATIONARY ENGINE.

PORTABLE STEAM CRANE.

CONTRACTORS' LOCOMOTIVE.

1 to 30 horse power.

6 to 27 horse power.

From the STRENGTH, SIMPLICITY, and COMPACTNESS of these ENGINES, they are now extensively used for general purposes; also in situations where steam-engines of the ordinary construction cannot be applied.

STATIONARY ENGINES.—require no building in, nor chimney stalk, and with our patent forced combustion apparatus will burn inferior qualities of coal, wood, or peats. These engines are specially suited for shipment, and may be packed inside the boiler, to economise freight.

PORTABLE STEAM CRANES,—for wharf or railway, with wrought-iron carriages on wheels, live motion, foot brake, &c., all under the easy control of one man; the larger sizes hoist, lower, and turn round in either direction by steam.—These Cranes were selected by H.M. Commissioners for receiving and sending away the heavy machinery at the International Exhibition of 1862.

CONTRACTORS' LOCOMOTIVES,—are adapted to work on rails or tramways, of a gauge from 2 feet upwards. They are complete and efficient locomotives, simple in construction, and the working parts easily got at for repair. They draw heavy loads at reduced speeds. These engines are usually sent in one package, ready for work on arrival.

LIGHT PORTABLE HOISTING, WINDING, AND PUMPING ENGINES, ETC.

ALEXANDER CHAPLIN AND CO., CRANSTONHILL ENGINE WORKS, GLASGOW.

LONDON OFFICE,—9, ADAM STREET, ADELPHI, W.C. LONDON DEPOT AND WHARF,—LOWER FORE STREET, LAMBETH, S.

Several engines of each class kept in stock, for sale on hire; and all our manufactures GUARANTEED AS TO EFFICIENCY, MATERIAL, AND WORKMANSHIP.

Parties are cautioned against using or purchasing imitations or infringements of these patent manufacturers.

International Exhibition, 1862—Prize Medal.

**JAMES RUSSELL AND SONS**  
(the original patentees and first makers of wrought-iron tubes), of the CROWN PATENT TUBE WORKS, WEDNESBURY, STAFFORDSHIRE, have been AWARDED a PRIZE MEDAL for the "good work" displayed in their wrought-iron tubes and fittings.

Warehouse, 81, Upper Ground-street, London, S.

**MESSRS. KNOWLES AND BUXTON, CHESTERFIELD.**  
MANUFACTURERS OF PATENT TUBULAR TUYERES.



The PATENT TUBULAR TUYERE possesses GREAT ADVANTAGES over the ORDINARY TUYERES, both for its DURABILITY and EASY WORKING. A current of cold water going direct to the nozzle prevents their destruction, however much they may be exposed to the fire.

We repair them at half the first cost, making them equal in size to new ones, all parts returning them carriage paid.

|                           |            |
|---------------------------|------------|
| No. 1 tuyere, 16 in. long | 25s. each. |
| No. 2 " 18 "              | 32s. "     |
| No. 3 " 20 "              | 36s. "     |
| No. 4 " 22 "              | 40s. "     |
| No. 5 " 24 "              | 44s. "     |

Delivered at Chesterfield station. Terms, net cash quarterly.

**THOMAS TURTON AND SONS.**  
MANUFACTURERS OF

CAST STEEL for PUNCHES, TAPS, and DIES,  
TURNING TOOLS, CHISELS, &c.

CAST STEEL PISTON RODS, CRANK PIN, CONNECTING RODS, STRAIGHT and CRANE AXLES, SHAFTS, and

FORGINGS of EVERY DESCRIPTION.

DOUBLE SHEAR STEEL, BLISTER STEEL, SPRING STEEL, GERMAN STEEL.

FILES MARKED T. TURTON.

EDGE TOOLS MARKED WM. GREAVES & SON

Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.

**SHEAF WORKS AND SPRING WORKS, SHEFFIELD.**  
LONDON WAREHOUSE,—35, QUEEN STREET, CANNON STREET, CITY, E.C.  
where the largest stock in the world may be selected from.

**BLAKE'S PATENT STONE BREAKER,**  
OR ORE CRUSHING MACHINE,  
FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND  
MINERALS OF EVERY KIND.

The above section illustrates Blake's Stone Breaker, just as made the last five years, and is fully protected in every part by patents.

Extract from Specification:—A short but powerful vibration is imparted to one or both of the jaws by any convenient arrangement, and combination of powerful levers, worked by a crank or eccentric on the main shaft.

LEGAL PROCEEDINGS will be taken at once against any person or persons found making, using, or vending any machine, the construction of which will constitute an infringement on the above patent. Read extracts of testimonials:—

*Alkali Works, near Wednesbury.*—I at first thought the outlay too much for so simple an article, but now think it money well spent.

WILLIAM HUNT.

*Welsh Gold Mining Company, Dolgelly.*—The stone breaker does its work admirably, crushing the hardest stones and quartz.

WM. DANIEL.

*Our 15 by 7 in. machine has broken 4 tons of hard winstone in 20 minutes, for fine road metal, free from dust.*

Messrs. OBD and MADISON, Stone and Lime Merchants, Darlington.

*Kirkless Hall, near Wigan.*—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.

JOHN LANCASTER.

*Ovoca, Ireland.*—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour.

WM. G. ROBERTS.

*General Fremont's Mines, California.*—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or 75 per cent. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate.

SILAS WILLIAMS.

## THE MINING SHARE LIST

## BRITISH DIVIDEND MINES.

| Shares.   | Mines.      | Paid.          | Last Pr.           | Business.                     | Dividends Per Share. | Last paid. |
|---|-------------|----------------|--------------------|-------------------------------|----------------------|------------|
| 1200 Alderley Edge (cop.), Cheshire [L.]            | 10 0 0 ..   | ..             | 10 8 0 ..          | 0 15 0 — April,               | 1864                 |            |
| 4000 Bedford United (copper), Tavistock             | 2 6 8 ..    | ..             | 2 3 4 2 1 4 ..     | 13 9 0 .. 2 8 — July,         | 1864                 |            |
| 1248 Boscastle (tin, copper), St. Just              | 6 15 0 ..   | ..             | 1 5 0 ..           | 0 5 0 — May,                  | 1864                 |            |
| 200 Botallack (tin, copper), St. Just               | 91 5 0 ..   | ..             | 47 15 0 ..         | 3 0 5 0 — May,                | 1864                 |            |
| 5000 Bronfond (lead), Cardigan [L. £3]              | 2 7 6 ..    | ..             | ..                 | ..                            | 1864                 |            |
| 816 Carroll (silver-lead), Newlyn ..                | 15 5 7 ..   | 40 ..          | 38 40 ..           | 8 10 0 .. 0 15 0 — Aug.,      | 1864                 |            |
| 1600 Carn Bear (copper, tin), Illogan ..            | 15 0 0 ..   | ..             | 280 10 0 ..        | 2 0 0 — June,                 | 1864                 |            |
| 2000 Clifford Amalgamated (cop.), Gwen              | 30 0 0 ..   | 31 1/2 ..      | 31 32 ..           | 32 8 6 .. 0 10 0 — Aug.,      | 1864                 |            |
| 12000 Copper Miners of England ..                   | 25 0 0 ..   | ..             | 71 8 6 ..          | 71 8 6 per cent. — Half-yrly. | 1864                 |            |
| 6000 Ditto ditto (stock) ..                         | 100 0 0 ..  | ..             | ..                 | ..                            | 1864                 |            |
| 867 Cwm Elin (lead), Cardiganshire [L.]             | 7 10 0 ..   | ..             | 13 18 0 ..         | 0 15 0 — July,                | 1864                 |            |
| 128 Cwmystwyth (lead), Cardiganshire ..             | 60 0 0 ..   | ..             | 267 10 0 ..        | 0 4 0 — July,                 | 1864                 |            |
| 280 Derwent Mines (sl., lead), Durham ..            | 300 0 0 ..  | ..             | 152 0 .. 5         | 0 0 — June,                   | 1864                 |            |
| 1024 Devon Gt. Con. (cop.), Tavistock [S.E.]        | 1 0 0 ..    | 595 ..         | 590 600 ..         | 923 0 .. 10 ..                | 1864                 |            |
| 338 Dolcoath (copper, tin), Camborne ..             | 129 17 6 .. | ..             | 769 10 0 ..        | 0 10 0 — July,                | 1864                 |            |
| 12800 Drake Walls (tin, copper), Calstock ..        | 9 1 0 ..    | ..             | 13 18 0 ..         | 0 16 0 — May,                 | 1864                 |            |
| 512 East Bassett (cop.), Redruth [S.E.]             | 29 10 0 ..  | 66 ..          | 123 0 .. 66 ..     | 12 0 0 — July,                | 1864                 |            |
| 6144 East Caradon (copper), St. Cleer [S.E.]        | 3 14 6 ..   | 28 ..          | 27 28 ..           | 11 5 0 .. 1 0 — July,         | 1864                 |            |
| 300 East Dartmoor (lead), Dartmoor ..               | 32 0 0 ..   | ..             | 99 10 0 ..         | 2 0 — Aug.,                   | 1864                 |            |
| 128 East Pool (tin, copper), Pool, Illogan ..       | 24 5 0 ..   | ..             | 369 10 0 ..        | 4 0 — June,                   | 1864                 |            |
| 1906 East Wheal Lion (tin), Wendron ..              | 2 19 6 ..   | 10 ..          | 1 10 0 ..          | 0 10 0 — May,                 | 1864                 |            |
| 2800 Fossdale (lead), Isle of Man [L.] ..           | 25 0 0 ..   | ..             | 64 0 .. 1 ..       | 0 1 — June,                   | 1864                 |            |
| 8000 Frank Mills (lead), Christow ..                | 3 18 6 ..   | ..             | 1 9 6 ..           | 0 5 — Aug.,                   | 1864                 |            |
| 13500 Great Laxey (lead), Isle of Man [L.] ..       | 0 0 ..      | 16 ..          | 0 11 0 ..          | 0 8 — June,                   | 1864                 |            |
| 1788 Great Wheal Fortune (tin), Breage ..           | 18 0 ..     | ..             | 5 15 0 ..          | 0 10 0 — Nov.,                | 1864                 |            |
| 5908 Great Wh. Vor (tin, cop.), Helston [S.E.]      | 40 0 0 ..   | 28 1/2 ..      | 3 19 6 ..          | 0 12 0 — June,                | 1864                 |            |
| 119 Great Work (tin), Germoe ..                     | 100 0 0 ..  | ..             | 10 0 .. 0 ..       | 0 8 — June,                   | 1864                 |            |
| 1024 Herodsfoot (id.), near Liskeard [S.E.] ..      | 8 10 0 ..   | ..             | 38 40 ..           | 28 0 .. 1 ..                  | 15 0 — Feb.,         | 1864       |
| 400 Ilshurn (lead), Cardiganshire, Wales* [S.E.] .. | 18 15 0 ..  | ..             | 424 10 0 ..        | 3 0 — Aug.,                   | 1864                 |            |
| 8000 Marke Valley (copper), Cardigan ..             | 4 10 6 ..   | 5 1/2 ..       | 2 14 0 ..          | 1 0 — July,                   | 1864                 |            |
| 3000 Minera (lead), Wrexham [L.] ..                 | 1 0 0 ..    | ..             | 0 3 0 .. 0 ..      | 0 2 — Aug.,                   | 1864                 |            |
| 1800 Minera Mining Co. [L.] (id.), Wrexham ..       | 20 9 0 ..   | ..             | 155 18 0 .. 10 ..  | 0 9 — Aug.,                   | 1864                 |            |
| 20000 Mining Co. of Ireland (cop., lead, coal) ..   | 7 0 0 ..    | ..             | 16 19 7 ..         | 0 12 3 — Jan.,                | 1864                 |            |
| 55000 Mynydd (iron ore) [L. £4] [S.E.] ..           | 21 0 0 ..   | ..             | 0 4 0 .. 0 ..      | 2 0 — April,                  | 1864                 |            |
| 250 Nanty Mines (lead), Montgomery ..               | 20 0 0 ..   | ..             | 7 0 .. 0 ..        | 1 0 — June,                   | 1864                 |            |
| 6000 New Birch Tor and Vitifer Cons. (tin) ..       | 1 6 6 ..    | 2 1/2 ..       | 0 9 6 ..           | 1 0 — July,                   | 1864                 |            |
| 5936 North Treskerby (copper), St. Agnes ..         | 1 9 0 ..    | 3 1/2 ..       | 0 13 0 ..          | 2 0 — Feb.,                   | 1864                 |            |
| 840 Par Consols (cop.), St. Blazey [S.E.] ..        | 1 2 8 ..    | ..             | 36 19 0 ..         | 0 2 — Mar.,                   | 1864                 |            |
| 300 Parrys Mines (cop.), Anglesey [L.] ..           | 60 0 0 ..   | ..             | 112 10 0 .. 10 ..  | 0 7 — July,                   | 1864                 |            |
| 1772 Polberro (tin), St. Agnes ..                   | 15 0 0 ..   | ..             | 7 19 6 ..          | 0 10 0 — Nov.,                | 1864                 |            |
| 612 Polberro (tin), St. Agnes ..                    | 8 0 0 ..    | ..             | 1 0 0 .. 1 ..      | 0 7 — July,                   | 1864                 |            |
| 1123 Providence (tin), Uny Lelant [S.E.] ..         | 10 6 7 ..   | 41 ..          | 39 41 ..           | 73 5 0 ..                     | 0 — May,             | 1864       |
| 6000 Rosewall Hill and Ransom United ..             | 2 16 0 ..   | ..             | 0 10 0 .. 0 ..     | 0 1 — June,                   | 1864                 |            |
| 612 South Caradon (cop.), St. Cleer [S.E.] ..       | 1 5 0 ..    | ..             | 510 520 ..         | 445 10 0 ..                   | 7 0 — July,          | 1864       |
| 612 South Tolgus (cop.), Redruth, Cornwall* ..      | 8 0 0 ..    | ..             | 74 10 0 ..         | 1 0 — May,                    | 1864                 |            |
| 496 S. Wh. Francis (cop.), Illogan [S.E.] ..        | 18 19 9 ..  | ..             | 42 47 ..           | 370 12 6 ..                   | 1 0 — Nov.,          | 1864       |
| 4000 St. Day United (tin), Redruth ..               | 14 0 0 ..   | ..             | 0 5 0 .. 0 ..      | 0 5 — Mar.,                   | 1864                 |            |
| 940 St. Ives Consols (cop.), St. Ives ..            | 8 0 0 ..    | ..             | 490 10 0 ..        | 1 0 — May,                    | 1864                 |            |
| 6000 Tincroft (cop., tin), Pool, Illogan [S.E.] ..  | 9 0 0 ..    | 20 ..          | 19 19 1/2 ..       | 15 1 0 ..                     | 9 12 6 — June,       | 1864       |
| 4200 Vixen and Clough (cop.) [L. £5] ..             | 4 0 0 ..    | ..             | 6 2 6 ..           | 1 10 0 — Mar.,                | 1864                 |            |
| 6000 West Bassett (cop.), Illogan [S.E.] ..         | 1 10 0 ..   | ..             | 8 10 ..            | 25 13 0 ..                    | 5 0 — July,          | 1864       |
| 3000 W. Chiverton (id.), Perranzabuloe [S.E.] ..    | — ..        | 70 ..          | 65 67 1/2 ..       | 3 0 0 .. 0 ..                 | 0 15 0 — Aug.,       | 1864       |
| 256 West Damsel (copper), Gwennap ..                | 38 10 0 ..  | ..             | 65 70 ..           | 51 0 0 ..                     | 1 0 — July,          | 1864       |
| 400 W. Wh. Seton (cop.), Camborne [S.E.] ..         | 47 10 0 ..  | 225 ..         | 215 220 ..         | 413 0 .. 4 ..                 | 0 4 — Aug.,          | 1864       |
| 512 Wheal Bassett (copper), Illogan* [S.E.] ..      | 5 2 6 ..    | 95 ..          | 92 1/2 95 ..       | 601 10 0 ..                   | 1 0 — Aug.,          | 1864       |
| 1000 Wheal Bassett and Grylls (tin) ..              | 7 0 0 ..    | ..             | 3 0 0 .. 0 ..      | 0 10 0 — Oct.,                | 1864                 |            |
| 612 Wheal Jane (silver-lead), Kew ..                | 3 10 0 ..   | ..             | 15 0 0 .. 0 ..     | 0 10 0 — Aug.,                | 1864                 |            |
| 4295 Wheal Kitty (tin), St. Agnes ..                | 5 4 6 ..    | 4 1/2 4 1/2 .. | 1 18 6 ..          | 0 5 0 — Aug.,                 | 1864                 |            |
| 1024 Wheal Kitty (tin), Uny Lelant [S.E.] ..        | 2 0 6 ..    | ..             | 10 2 6 ..          | 7 6 — July,                   | 1864                 |            |
| 1024 Wh. Mary Ann (id.), Menheniot [S.E.] ..        | 8 0 0 ..    | 15 ..          | 68 7 6 ..          | 0 10 0 — June,                | 1864                 |            |
| 100 Wheal Mary (tin), Lelant ..                     | 36 2 6 ..   | ..             | 288 8 0 ..         | 4 0 — Mar.,                   | 1864                 |            |
| 80 Wheal Owles (tin), St. Just, Cornwall ..         | 70 0 ..     | ..             | 343 3 0 ..         | 5 0 — May,                    | 1864                 |            |
| 396 Wheal Seton (tin), Camborne ..                  | 58 10 0 ..  | 215 ..         | 207 1/2 212 1/2 .. | 178 18 0 ..                   | 4 0 — Aug.,          | 1864       |
| 1040 Wh. Trellawny (tin), Liskeard [S.E.] ..        | 5 17 0 ..   | 20% ..         | 20 21 ..           | 50 5 0 ..                     | 0 12 6 — Aug.,       | 1864       |
| 2044 Wheal Tremayne (tin), Gwinear ..               | 6 11 3 ..   | ..             | 6 1 3 ..           | 5 0 ..                        | 0 5 — Nov.,          | 1864       |
| 7000 Wicklow (copper) [L.] ..                       | 2 10 0 ..   | ..             | 14 14 1/2 ..       | 14 11 0 ..                    | 0 6 0 — April,       | 1864       |

\* Dividends paid every two months. † Dividends paid every three months.

## BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

|  |            |          |                |                 |      |
|--|------------|----------|----------------|-----------------|------|
| 240 Boscar (tin), St. Just ..                  | 20 10 0 .. | — ..     | 36 10 0 ..     | 1 0 0 — Mar.,   | 1862 |
| 3000 Chiverton (lead), Perranzabuloe [S.E.] .. | 6 0 0 ..   | 8 ..     | — ..           | — ..            | 1862 |
| 256 Condurrow (cop., tin), Camborne ..         | 45 0 0 ..  | ..       | 85 0 0 ..      | 2 0 0 — June,   | 1857 |
| 2450 Cook's Kitchen (copper), Illogan ..       | 17 15 9 .. | ..       | 1 7 6 ..       | 0 7 0 — May,    | 1862 |
| 1024 Copper Hill (copper), Redruth ..          | 12 0 0 ..  | ..       | 2 7 6 ..       | — Sept.,        | 1862 |
| 1055 Craddock Moor (copper), St. Cleer ..      | 8 0 0 ..   | ..       | 7 12 0 ..      | 0 4 0 — July,   | 1862 |
| 4076 Devon and Cornwall (cop.), Tavistock ..   | 6 6 3 ..   | ..       | 0 10 0 .. 0 .. | 2 6 — Feb.,     | 1859 |
| 3000 Dyngwyn (lead), Wales ..                  | 12 6 6 ..  | ..       | 0 17 6 ..      | 2 6 — Jan.,     | 1864 |
| 940 Fowey Consols (copper), Tywardreath ..     | 4 0 0 ..   | ..       | 41 9 3 ..      | 2 6 — June,     | 1860 |
| 6000 Great South Tolgus, Redruth ..            | 0 14 6 ..  | 2 1/2 .. | 7 18 6 ..      | 5 0 — Dec.,     | 1861 |
| 1024 Gunnis Lake (Cilliters' Adit) ..          | 0 2 0 ..   | ..       | 0 3 0 .. 0 ..  | 1 6 — Mar.,     | 1862 |
| 160 Levant (copper, tin), St. Just ..          | 2 10 0 ..  | ..       | 1091 0 .. 5 .. | 0 5 — May,      | 1862 |
| 6490 Mount Pleasant (lead), Mold ..            | 4 0 0 ..   | ..       | 18 18 1 ..     | 7 6 — Aug.,     | 1862 |
| 5000 Orsedd (lead), Flintshire ..              | 0 8 0 ..   | ..       | 0 10 4 .. 0 .. | 0 8 — Mar.,     | 1862 |
| 6000 South East Mouth (lead), St. Just ..      | 1 14 0 ..  | ..       | 5 0 5 ..       | 5 0 — Dec.,     | 1862 |
| 280 Spearmoor (lead), St. Just ..              | 32 17 9 .. | ..       | 9 15 0 .. 1 .. | 0 10 0 — June,  | 1862 |
| 572 Troydon Consols (tin), St. Ives ..         | 13 10 0 .. | ..       | 7 0 .. 0 ..    | 0 10 0 — Sept., | 1860 |
| 1000 Trumpet Consols (tin), near Helston ..    | 11 10 0 .. | ..       | 11 0 .. 0 ..   | 2 0 — Mar.,     | 1862 |
| 12000 Two'ves Apostles Amal. (id.), Wrex       |            |          |                |                 |      |